

DEVELOPMENT PLAN STATUS REVIEW

Volume I

STATUS: FISCAL YEAR 1988

September 1, 1988

**City and County of Honolulu
FRANK F. FASI, Mayor
DEPARTMENT OF GENERAL PLANNING
Honolulu, Hawaii**

MAYOR'S MESSAGE

I am pleased to present this second Development Plan Status Review. This document provides updated information through June 30, 1988 on the implementation status of previously approved amendments to the Special Provisions, Land Use Map, and Public Facilities Map of the Development Plans. Also included in the 1988 review are descriptions of each Development Plan area, discussion of current major issues, and information on development capacity and the acreage available for development in each area.

The data provided should be useful in evaluating development issues and to clarify the present status of the Development Plans and their implications for Oahu's future.



FRANK F. FASI, Mayor
City and County of Honolulu

EXECUTIVE SUMMARY

Seven years have passed since the first of the 8 Development Plans (DP) was adopted. Since 1982 approximately 700 requests for DP Land Use amendment changes have been processed, and 300 amendments have been adopted. Changes in the Special Provisions for each DP area have occurred yearly. There are also 913 facilities now shown on the DP Public Facilities Map. A key purpose of the annual Development Plan Status Review (DPSR) is to evaluate the status of previously approved amendments to the DP Special Provisions, Land Use Map, and Public Facilities Map. The DPSR is also to provide estimated population capacity and available acreage for development in each DP area and to provide an assessment of social, economic, and environmental conditions and impacts related to future development.

Of the 300 land use amendments adopted, half were in the "ministerial" category, for which no project was proposed as the purpose of the amendment. Ministerial completions are amendments for the purpose of recognizing existing uses, correcting mapping errors, or other administrative changes. These amendments have no development impact.

Of the remaining 150 land use amendments, 9 were reported as completed development projects in last year's DPSR. Another 12 projects have been completed since the previous reporting period and are listed in Volume III of the 1988 DPSR. These 21 amendments were for relatively small scale projects which had localized or minimal development impacts. These 21 consisted of such projects as: construction of a recreation center and pool, housing developments of 36 to 120 units in various DP areas, park development, and commercial developments under an acre in the Primary Urban Center.

The number of DP amendments adopted has declined each year since 1983, from 89 amendments in 1983 to 11 amendments in 1987. The 11 amendments in 1987 reflect a combination of amendments adopted both under the independent consideration and annual amendment review processes.

Adopted amendments which would have greater impacts in their respective DP areas are at present in the planning or design stages. These include Kapolei Town Center, Waikele, the Ewa Village area where Gentry is currently building, West Loch, and the Hawaii Kai Marina area. Additional housing development at the Gentry site and the Hawaii Kai Marina area may take place within the year, while construction should start at West Loch by the end of 1988.

The social, economic and environmental conditions and major issues in each DP area are summarized in the 1988 DPSR. The major issues of growth, housing, economic development, social and environmental impact, and infrastructure deficiencies are further discussed briefly on an islandwide basis.

Acreage designated for all forms of residential use decreased by about 6,600 acres between 1980 and 1986. Based on DP land use designations currently in effect, the capacity exists to accommodate the projected Oahu population in the year 2005, but not the population forecasted for the year 2010. Furthermore, not all of the approximately 70,300 housing units expected to be built on developable land are expected to be completed by the year 2005.

Developable acreage and existing DP designations will result in a potential supply of an additional 22,000 new housing units in the PUC and 30,000 units for Ewa (if Kapolei Village is included). The total housing units generated in the primary and secondary urban centers, however, will still be insufficient to meet demand for new housing.

The lack of financial ability on the part of large numbers of Oahu residents to purchase a home and the inadequate supply of rental housing continue to be major problems. There has been only minimal development of new rental housing by the private market. The percentage of owner occupants on Oahu has only increased slightly in the past 20 years, because of the widening gap between housing prices and income. The problem of affordability remains for families earning incomes at the median level, and there is little prospect that wage levels or median family incomes will rise substantially in the near future, so solutions lie in public policies that encourage more private development of affordable housing or public production of affordable housing.

Higher wages are also needed to enable future households to buy the new housing which is currently planned. The shift to service sector employment in Hawaii reflects the national trend. Jobs in the retail and wholesale trade and services sector now account for two-thirds of private employment in Hawaii. The growth in tourism and service related areas have resulted in more unskilled jobs at the low end of the wage scale.

Large numbers of new jobs are expected on Oahu because of the growth of tourism, including projected jobs at the Ko Olina resort, currently under construction, and at the Kuilima resort, currently under design. These new service jobs, however, will pay less than construction and manufacturing ones. Development of the secondary urban center in Ewa, along with full development of lands at the Campbell Industrial Park, may facilitate better diversification and higher paying jobs in the Oahu economy.

High on- and off-site improvement costs continue to be a major component of the cost of each housing unit. For example, preliminary figures indicate that on- and off-site development costs could be as much as 40% of the total construction cost of a unit in the first phase of the City's West Loch development. The West Loch site was selected for its location adjacent to an urbanized area providing ready access to existing infrastructure in order to minimize development costs.

The Development Plans are providing for job and housing development in Ewa and fuller development of the Primary Urban Center. Traffic congestion on existing roadways is a major problem, and additional water and sewer facilities are also needed. Extensive infrastructure improvements and additions will be required to support growth and new development in the Primary Urban Center, Ewa, and Central Oahu. These three areas account for nearly 70% of all proposed new public facilities. There appears to be a gap, however, between City and County, fiscal resources and the cost of additional public facilities needed. Additional revenue or taxing authority from the State may be needed for sufficient funds to build the infrastructure needed for housing or economic development.

The next DPSR will include an assessment of infrastructure needs, existing deficiencies, and the sequence or timing of the facilities required in order to support planned developments. The estimated cost and degree of developer participation already committed will also be analyzed to determine if there still is a service and facilities gap directly related to the growth resulting from a proposed project.

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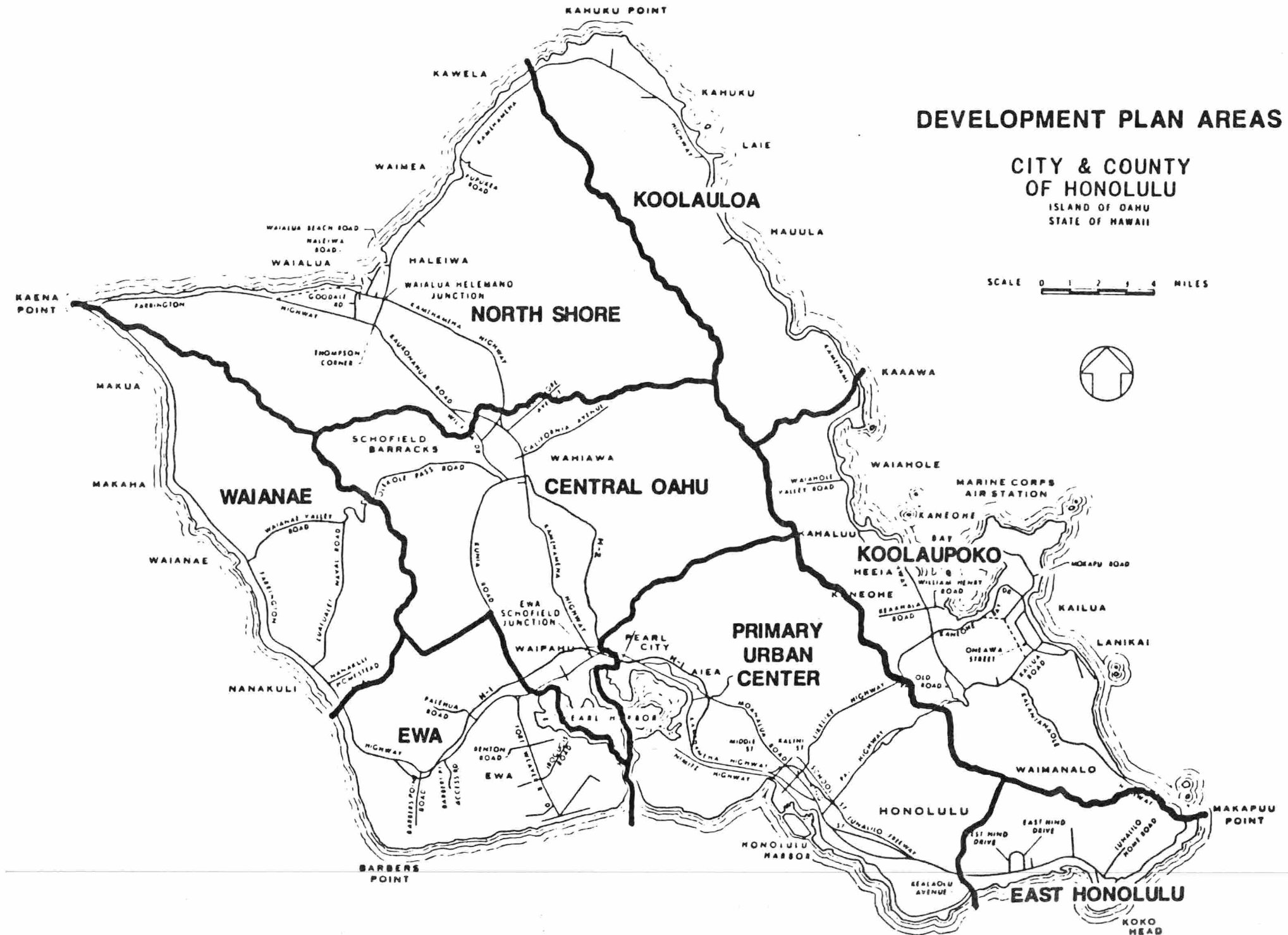
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DEVELOPMENT PLAN AREAS

CITY & COUNTY
OF HONOLULU

ISLAND OF OAHU
STATE OF HAWAII

SCALE 0 1 2 3 4 MILES



SECTION I.
INTRODUCTION

As a result of the FY 1986 Annual Review of the Development Plan (DP), a new section was added to the Common Provisions requiring the Chief Planning Officer to submit a Development Plan Status Review to the City Council by March 1 of each year starting in 1987. As amended by Ordinance 88-22, the submission date was changed to September 1, for the 1988 review. Section 14, adopted by Ordinance Number 86-76, specifies that this review will include the following:

1. The status of implementation of previously approved amendments to the Special Provisions, Land Use Map, and Public Facilities Map.
2. The population capacity and available acreage for development in each Development Plan area.
3. The social, economic, and environmental conditions and impacts related to future development.
4. Proposed actions to improve implementation of the General Plan, the Common Provisions, and the Development Plans.
5. Other studies and recommendations on matters determined by the Chief Planning Officer or requested by the City Council.

The Development Plan Status Review (DPSR) for FY 1988 is the second report in compliance with Section 14. This DPSR covers adopted amendments to the Development Plan since its beginning in 1982 up through June 30, 1988. Those amendments that have been reported as completed in the FY 1986 report and for which there was no further activity, were not included in this year's DPSR. Future DPSRs will report only on changes taking place during the preceding year that affect the status of amendments with development projects not yet completed.

The DPSR for FY 1988 consists of three volumes. This main volume summarizes the status of implementation and assesses the major conditions and issues in each Development Plan (DP) area and islandwide. The second volume is an update of islandwide social, economic, and environmental indicators and social and economic indicators specific to each DP area. The intent of this portion of the DPSR is to consolidate and expand the categories of information relevant to growth, development and quality of life which are available about the City and County of Honolulu and its subareas. The third volume contains a list of all adopted DP amendments active as of July 1, 1986, a listing of DP Public Facilities amendments, amended text to the Common Provisions, and other documentation relevant in assessing the status of the Development Plans.

An objective of the first DPSR was to establish a data base for those specific topics outlined in Section 14 as the necessary basis to assess implementation, by means of the Development Plan, of City Council policies defined in the General Plan. The FY 1988 DPSR expands the data base.

Descriptions of existing social, economic, and environmental conditions in all eight DP areas have been added in the FY 1988 DPSR. These descriptions comprise Section IV of this volume. Significant cause and effect relationships that can be identified were considered in terms of their impact on future development and conditions in the DP areas. Where possible and appropriate, the findings and conclusions of this analysis will be the basis for proposed policies and actions to influence future development planning and land use management.

Salient concerns were extracted from the DP area summary assessments for a discussion regarding the major issues of growth, housing, economic development, social and environmental impact, and infrastructure deficiencies. These interrelated issues are explored in relationship to the Development Plans and the implementation status of the plans.

Future DPSRs will examine in more specific detail the issues of growth, housing, economic development, and infrastructure capacity in order to evaluate the effectiveness of the Development Plan and its impact on achieving objectives and policies of the General Plan. An analysis of existing infrastructure capacity and the additional requirements to accommodate growth or development in each DP area will be included as part of next year's DPSR.

Additional sources of raw data will be sought to improve understanding of existing conditions and implications for the future. Many of these sources are within the City and County itself. The development of the City's Geographic Information System (GIS), scheduled to come on line by 1990, and availability of 1990 Census data soon after that will greatly facilitate the assessment of development in relationship to major social and environmental conditions and the compilation of a City and County Data Book.

Information about the progress of developments after land use changes and permits have been granted which is particularly important for planning and management purposes, needs to come from private sources. Decisions about public Capital Improvement priorities, expenditures, and the sequencing of public facilities would benefit greatly from better knowledge about timing of development build-out. Concerns about the numbers and types of jobs and employment levels are directly related to the pace of development. Methods for assuring that the City and County is adequately informed about developer plans and progress will continue to be explored with the private sector. Discussions with individual major developers provided valuable information in refining development capacity projections and updating the status of major projects and land use amendments for this report.

SECTION II.
DEVELOPMENT PLAN STATUS OF IMPLEMENTATION

Since the inception of the Development Plans and the Land Use Maps for the City and County of Honolulu in 1982-1983, a total of 300 land use amendments to the maps have been adopted by ordinance. This section will summarize statistically the status of implementation by Development Plan (DP) areas of these amendments and projects permitted by them. Information about each amendment adopted since 1982 is contained in Volume III, Documentation: Fiscal Year 1987-88. Status of implementation is as of the cutoff date of June 30, 1988.

Common Provisions amendments to the Development Plan are summarized in this section and full text of the amendments can be found in Section II, Volume III. Sections changed in the Special Provisions are listed in this volume and briefly described for each DP area in Section I, Volume III.

All facilities depicted on the Public Facilities Map have been given unique numbers and listed in two ways. First, they are listed according to DP area by Government Agency or as Private. This list is in Section I, Volume III. Second, there is a listing of all Public Facilities by Government Agency or as Private in Section III, Volume III. Statistical summaries of these listings are presented in this section.

A. Development Plan Land Uses

Stretching 44 miles at its extreme length to a width of 30 miles, the island of Oahu is 379,904 acres of land surrounded by a general coastline of 112 statute miles. The City and County of Honolulu includes another 1,862 acres of land comprising the North West Hawaiian Islands.

Much of the Oahu land area is mountains, with 45.5% of the land having a slope equal to or greater than 20%. Most of the rest of the land area, 42.5%, has a slope of less than 10%. Mean altitude on Oahu is approximately 860 feet; 45.3% of the land having an elevation less than 500 feet. Only 4.6% of Oahu's mountains reach elevations of 2,000 feet or above. Most of the land area on Oahu, 79%, is located within 5 miles of the coast line. Only about 54% of the total land area is developable. These characteristics, unique to island communities, add a special dimension to land planning.

Tables II-1 and II-2 describe the amount of land area that has been set aside for each of the specific land uses as determined by the Development Plan Land Use Map. The numbers in these tables do not equate to existing use but are designated land uses only. The acreage is less than that noted for the island of Oahu; land represented by public thoroughfares is not included. Table II-1 analyzes land use by DP Areas. Reading across the table, in 1987 the Primary Urban Center (PUC) contained 65,409 acres, which is 17% of the total land of Oahu. Most of the PUC land area is designated Preservation, 54%, and 14% can be used for Residential development. Only 638 acres was identified in 1986 as developable, using the definition given in the footnote. The last row of the table gives summary totals for Oahu, which indicate that 43% of the land is designated Preservation and 31% Agriculture. A total of 8,377 acres was identified as developable in 1986. Further refinement of developable residential acreage, based on capacity as of December 31, 1987, is included in Section III.

The focus of Table II-2 is on each land use designation. For example, 27,047 acres of land was designated for Residential land use in 1987. Of that total, 33% is located in the Primary Urban Center, 22% in Koolau, and 13% in Central Oahu. Of the land identified as developable, 4,362 or about 52% is designated for Residential use. When grouped together, Agriculture, Parks and Recreation, and Preservation designated lands comprise 76% of the Oahu land area, which is due in a large extent to the considerable mountainous areas. The last row summarizing land distribution figures on Oahu is the same as the third column of percentages in Table II-1.

A comparison of the 1980 Detailed Land Use Map (DLUM) and the 1986 Development Plan (DP) Land Use Map is included in this report. This comparison will be used to provide supplemental background information in the evaluation of the status of the Development Plans. Tables II-3 to II-10 compare the distribution of designated land uses in 1980 (base year prior to adoption of Development Plans) and as of December 31, 1986 for which the most current data is available. Table II-11 provides a summary of approximate acreage changes as a result of DP amendments adopted.

Also included in this report is a comparison of land use classifications. Table II-12 presents a breakdown of the DP Land Use designations compared to the real property assessment for Oahu.

Land ownership for the State and for Oahu is summarized in Table II-13 and II-14. Although the number of acres in government ownership decreased slightly between 1985 and 1987 as the number of acres in private ownership increased slightly, the overall pattern of ownership did not change. About 63% of land on Oahu continues to be in private ownership and 37% is owned by government, most of that by the State. The proportions are similar for the State as a whole. Six major private landowners account for at least 24% of the land ownership statewide.

TABLE II-1

COMPARISON OF DEVELOPMENT PLAN AREAS:
DESIGNATED LAND USES

Development Plan (DP) Area	Acreage (acres)		Portion of Oahu Land (%)	Distribution of Land by DP Use Designation (%)											Developable Land 1986 ^a (Acres)
	1987	1986		Res	Apt	Cml	Ind	Rsrt	Ag	PF	Park	Pres	Mil	Other	
Primary Urban Center	65,409	65,149	17	14	3	2	2	<1	1	9	3	54	13	1	638
Ewa	33,086	33,105	9	6	3	2	5	<1	51	3	2	5	22	<1	3,286
Central Oahu	69,398	69,443	19	5	1	1	1	-	33	1	1	38	18	1	1,699
East Honolulu	14,296	14,302	4	22	2	1	<1	<1	1	1	3	69	<1	1	820
Koolaupoko	41,240	41,216	11	14	1	1	<1	-	20	4	4	45	10	3	671
Koolauloa	37,034	37,050	10	2	<1	<1	<1	1	37	1	3	56	-	<1	321
North Shore	77,080	77,063	21	1	<1	<1	<1	-	55	1	1	41	1	1	140
Waianae	38,103	38,104	10	5	<1	<1	<1	<1	25	1	2	47	18	1	802
Oahu	375,646	375,432	100	7	1	1	1	<1	31	3	2	43	11	1	8,377

^aDefined as usable parcels (less than 20% slope) either vacant or in agricultural use, underutilized parcels, and parcels on which a specific development action is planned.

Note: Land acreage may differ with other figures due to rounding.

TABLE II-2

DESIGNATED USES FOR LAND ON OAHU,
LAND USE MAP

Development Plan Land Use Designation	Acreage (acres)		Portion of Oahu Land (%)	Land Location Distribution (%)								Developable Land 1986 ^a (acres)
	1987	1986		PUC	Ewa	CO	EH	KP	KL	NS	Waia- nae	
Residential	27,047	26,782	7	33	7	14	12	22	3	3	7	4,362
Apartment	4,193	4,207	1	40	27	20	6	5	1	1	2	1,612
Total for Housing	31,240	30,989	8									5,974
Commercial	2,942	2,784	1	45	24	11	4	8	4	2	3	953
Industrial	3,593	3,607	1	38	45	11	<1	4	<1	1	1	1,080
Resort	523	523	<1	20	16	-	1	-	57	-	7	265
Total for Business	7,058	6,914	2									2,298
Agricultural	114,554	114,573	31	1	15	20	<1	7	12	37	8	-
Parks & Recreational	7,872	7,819	2	25	10	12	5	19	12	9	8	-
Preservation	160,447	161,188	43	22	1	16	6	11	13	20	11	-
Total for Open Space	282,873	283,580	76									
Public & Quasi-Public	11,256	11,034	3	53	9	8	1	14	2	8	5	-
Military	39,210	39,433	11	21	18	32	<1	11	-	1	17	-
Total for Government	50,466	50,469	13									
Other	4,009	3,480	1	14	4	13	5	36	1	11	16	107
Oahu	375,646	375,430	100	17	9	19	4	11	10	21	10	8,379

^aDefined as usable parcels (less than 20% slope) either vacant or in agricultural use, underutilized parcels, and parcels on which a specific development action is planned.

Note: Land acreage may differ with other figures due to rounding.

TABLE II-3

DISTRIBUTION OF DP DESIGNATED LAND USES, 1986

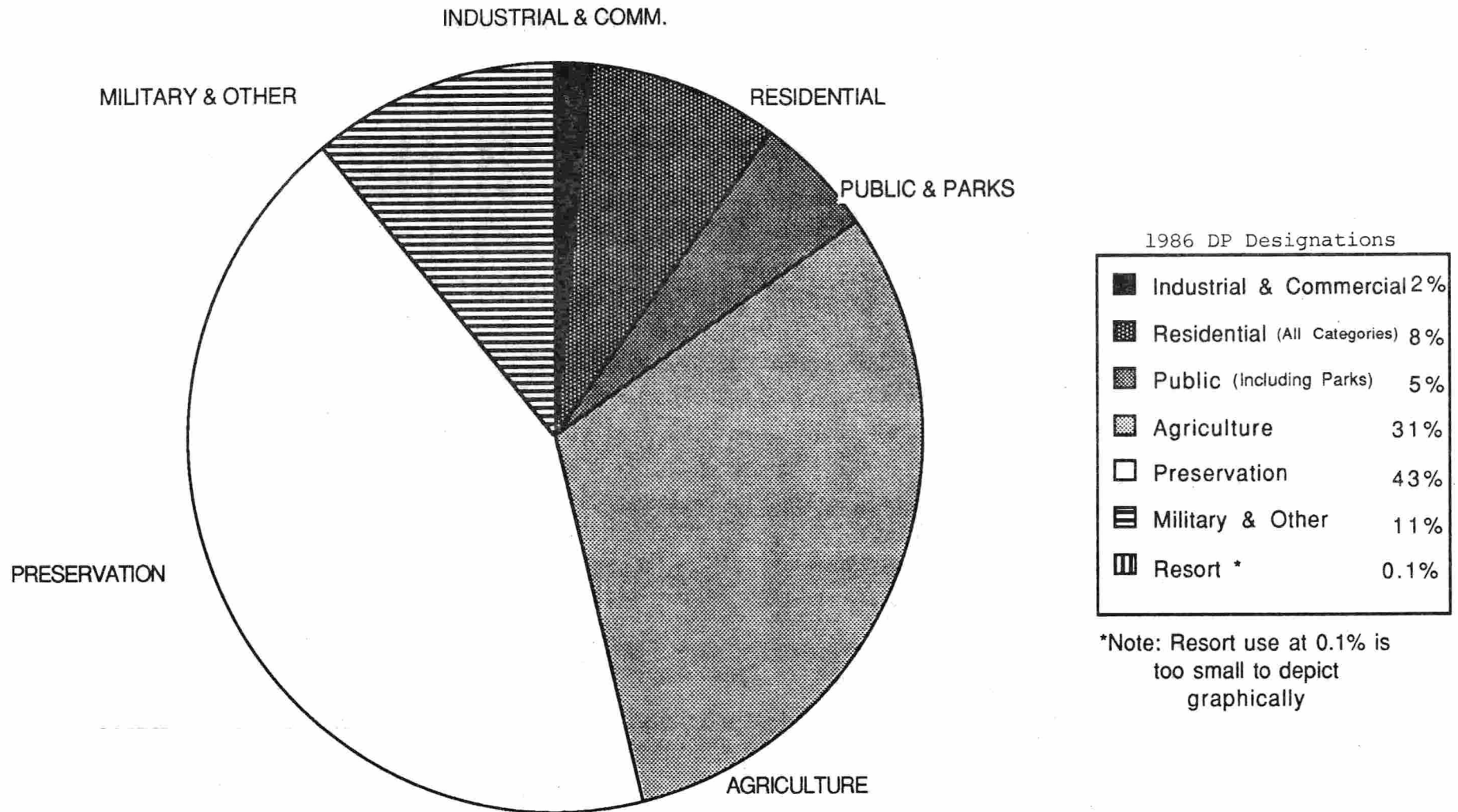


TABLE II-4
COMPARISON OF 1980 DLUM/GP AND 1986 DP DESIGNATIONS

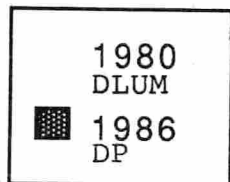
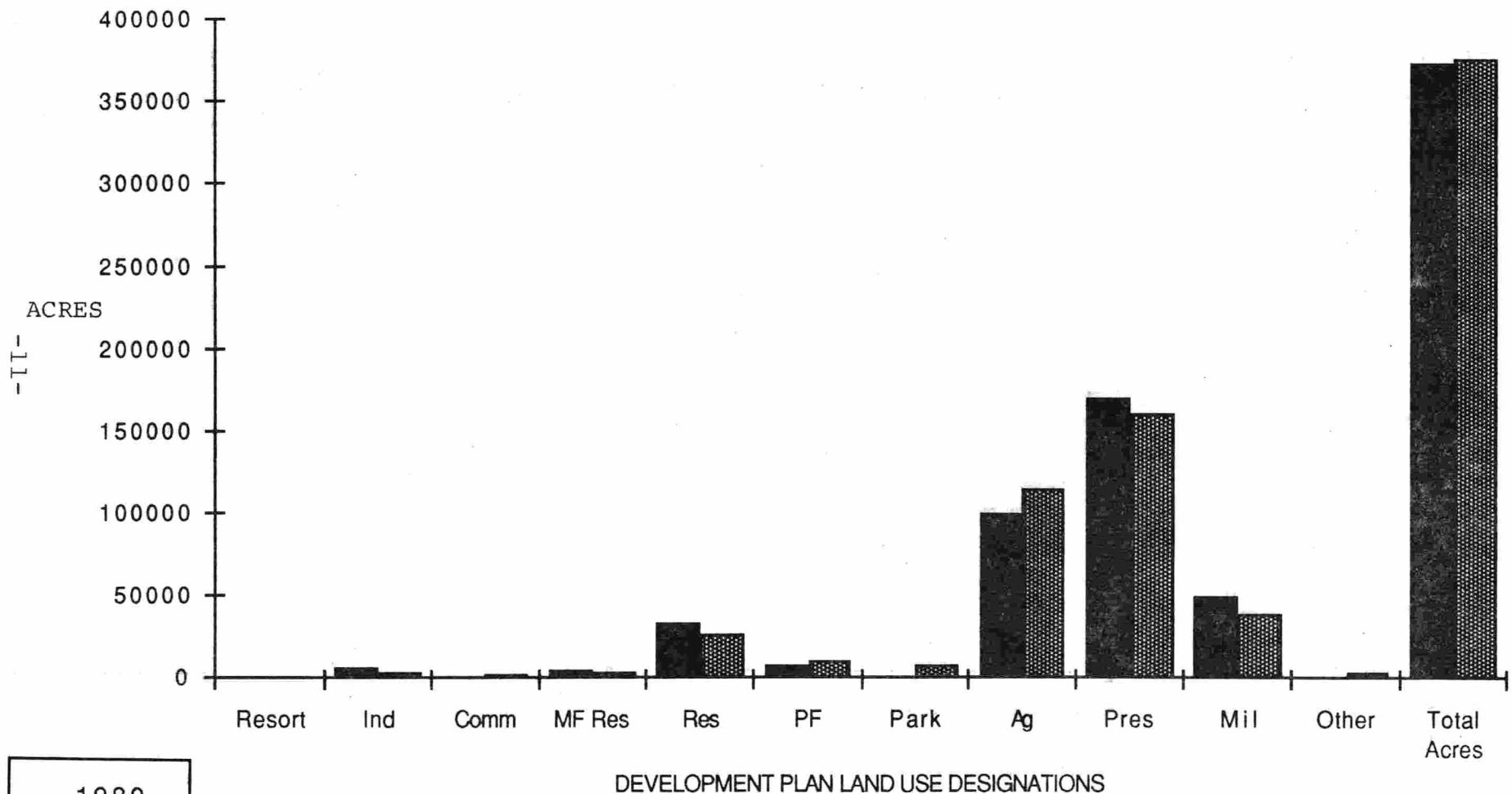
DESIGNATIONS	PUC		EWA		CENTRAL OAHU		EAST HONOLULU		KOO LAUPOKO	
	1980	1986	1980	1986	1980	1986	1980	1986	1980	1986
	ACRE	ACRE	ACRE	ACRE	ACRE	ACRE	ACRE	ACRE	ACRE	ACRE
	SUM	SUM	SUM	SUM	SUM	SUM	SUM	SUM	SUM	SUM
REFSORT	135.54	104.37	.	80.57	.	.	188.00	6.48	132.06	.
INDUSTRIAL	2453.02	1359.68	3204.88	1604.36	624.27	402.77	15.30	16.52	243.92	127.62
COMMERCIAL	935.55	1257.88	52.82	715.25	212.89	416.48	104.37	95.13	251.69	217.69
HDA	2296.09	122.15	88.64	.	782.00	.	308.24	.	442.62	.
HDA	(total MF)	918.19	(total MF)	232.93	(total MF)	419.14	(total MF)	103.05	(total MF)	124.35
LDA		644.74		860.71		402.98		141.65		75.66
RESIDENTIAL	9364.20	8919.52	2387.45	2062.13	3171.28	3636.54	3817.95	3173.58	8866.66	5851.53
PUBLIC	4720.14	5851.09	252.21	1039.99	698.40	1024.61	256.62	200.18	1399.65	1556.83
PARK		1982.95		818.05		904.09		389.08		1493.03
AGRICULTURE	1436.99	636.15	17597.62	16568.72	24721.26	23277.31	115.15	113.79	5638.81	8098.04
PRESERVATION	32844.19	34676.86	2702.86	1806.86	20800.88	26326.58	9503.98	9883.54	20735.21	18261.35
MILITARY	8771.22	8286.45	6596.80	7210.36	18848.36	12324.19	0.17	3.22	3522.34	4155.72
OTHER		649.26		85.95		264.26		169.32		1277.81
TOTAL	62956.93	55409.27	32883.25	33085.89	69859.34	69397.96	14309.78	14295.53	41232.96	41239.63

DESIGNATIONS	KOO LAU LOA		NORTH SHORE		WAIANAE		TOTAL	
	1980	1986	1980	1986	1980	1986	1980	1986
	ACRE	ACRE	ACRE	ACRE	ACRE	ACRE	ACRE	ACRE
	SUM	SUM	SUM	SUM	SUM	SUM	SUM	SUM
REFSORT	260.89	297.42	93.43	.	203.73	34.62	1013.65	523.46
INDUSTRIAL	33.78	2.60	35.59	33.52	120.48	46.01	8731.24	3593.07
COMMERCIAL	55.82	100.94	46.24	52.10	91.08	86.08	1750.46	2941.57
HDA	160.63	.	52.18	.	664.32	.	4774.73	122.15
HDA	(total MF)	5.54	(total MF)	3.70	(total MF)	69.61	(total MF)	1875.52
LDA		33.05		15.77		20.53		2195.09
RESIDENTIAL	1245.13	802.52	1399.93	719.36	2792.22	1882.19	33044.83	27047.37
PUBLIC	249.21	237.02	102.13	847.50	362.41	498.26	8043.70	11255.46
PARK		968.78		695.98		620.15		7872.10
AGRICULTURE	7592.70	13808.63	34539.04	42393.75	7525.08	9657.36	99156.65	114553.76
PRESERVATION	24098.51	20757.27	38056.10	30892.76	20269.44	17841.61	169011.17	160446.84
MILITARY	3402.27	.	2051.27	346.22	6046.54	6884.30	49239.03	39210.45
OTHER		20.54		1079.07		462.75		4008.94
TOTAL	37098.93	37034.32	76375.92	77079.73	38075.38	38103.47	372792.54	375645.80

Source: DGP, 1980 and
1986 Land Use Files

TABLE II-5

COMPARISON OF LAND USE DESIGNATIONS AND ACREAGE:
1980 GP/DLUM AND 1986 DP



(Note: Categories with approximately 1,000 acres or less do not register on chart)

TABLE II-6

COMPARISON OF 1980 GP/DLUM AND 1986 DP DESIGNATIONS:
ALL RESIDENTIAL DESIGNATIONS

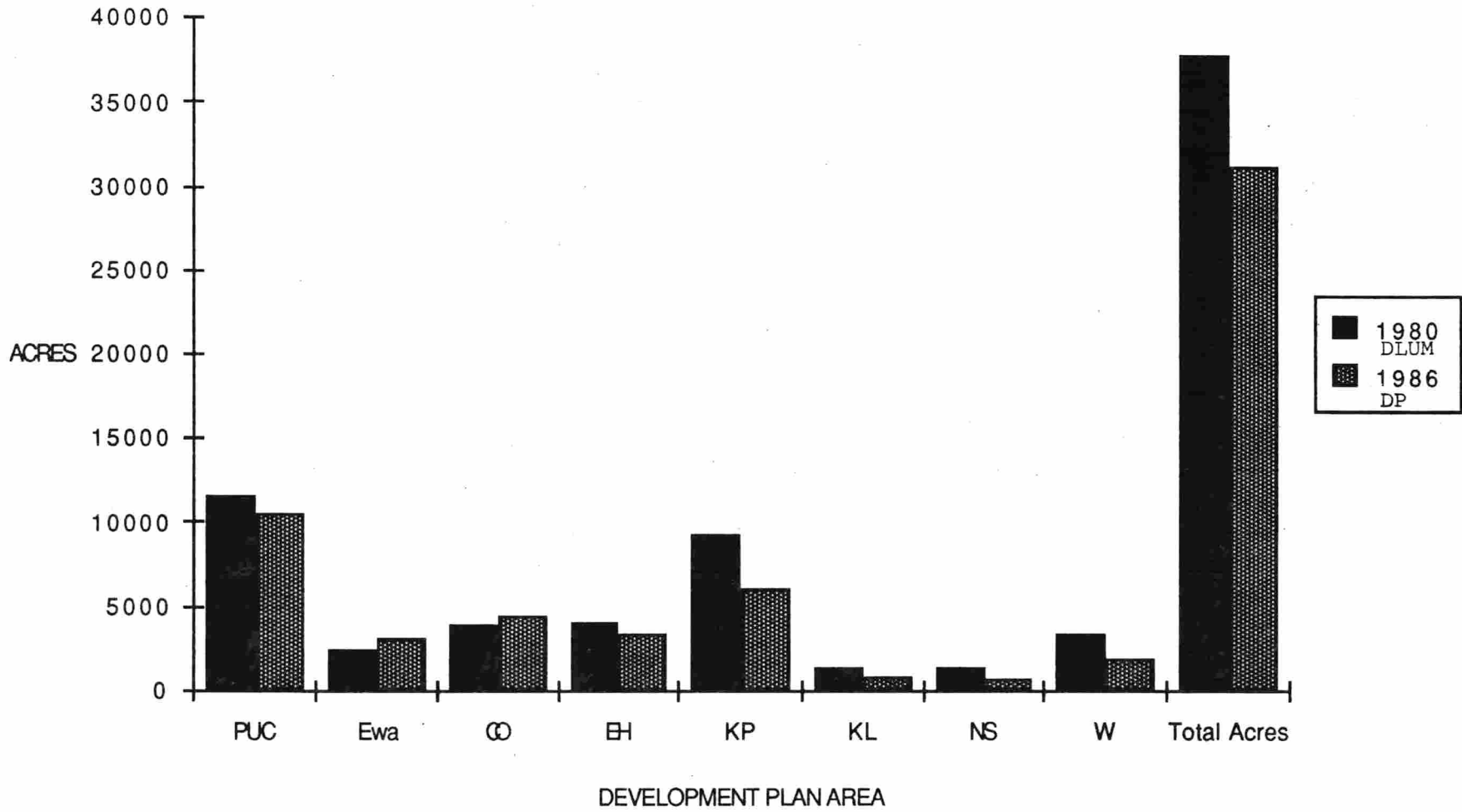


TABLE II-7

COMPARISON OF 1980 GP/DLUM AND 1986 DP DESIGNATIONS:
SINGLE FAMILY RESIDENTIAL

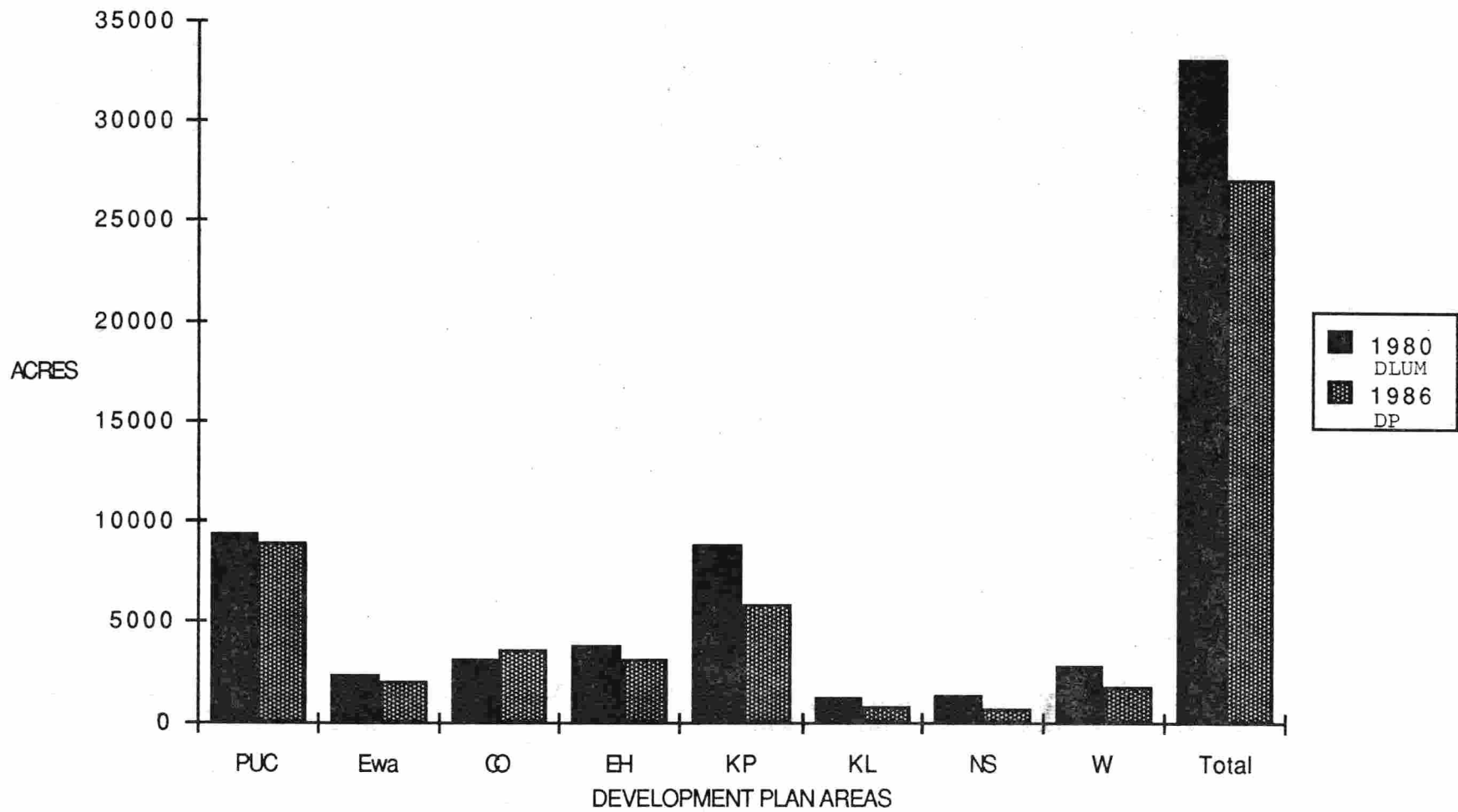
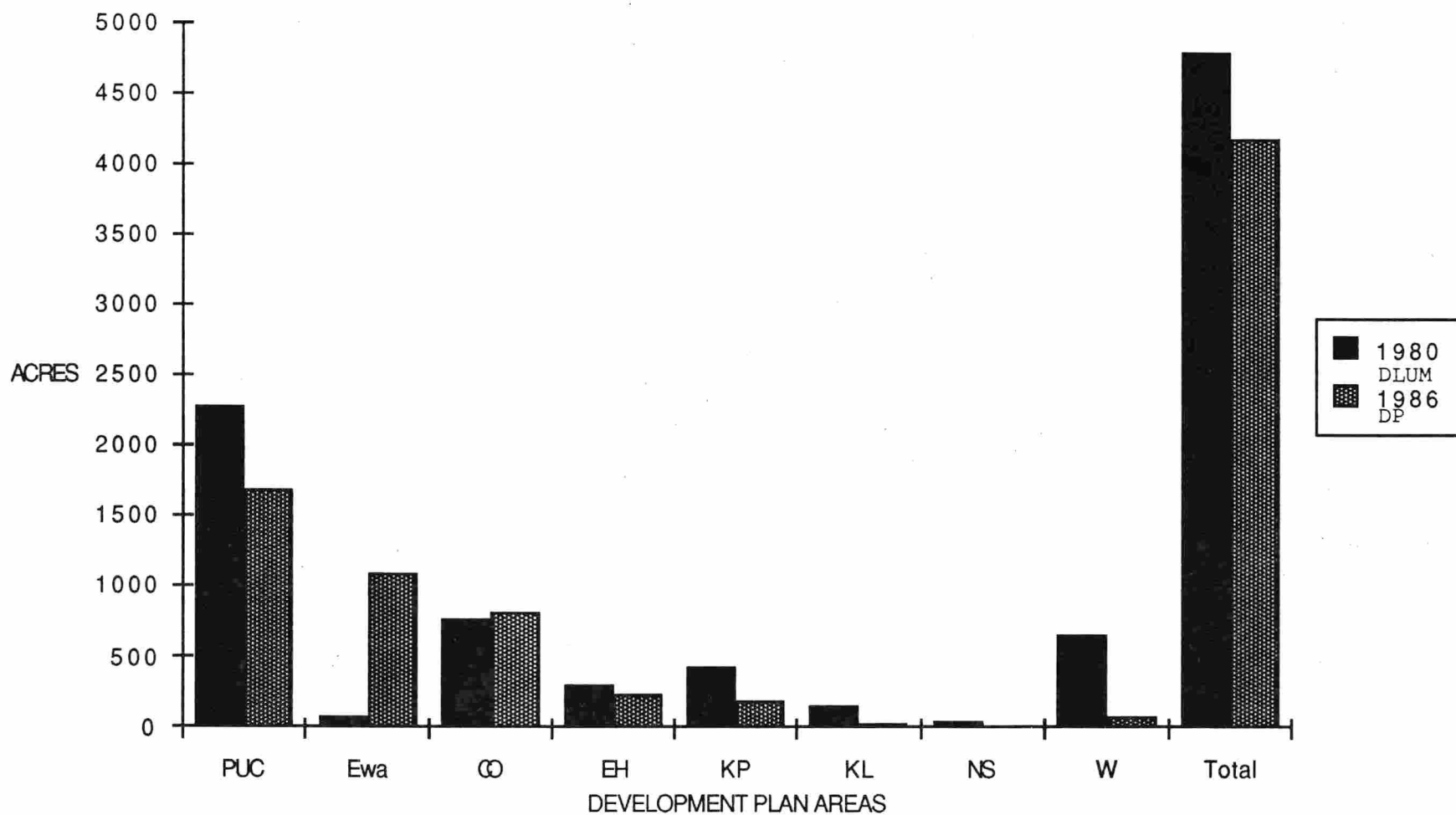


TABLE II-8

COMPARISON OF 1980 GP/DLUM AND 1986 DP DESIGNATIONS:
MULTIFAMILY RESIDENTIAL

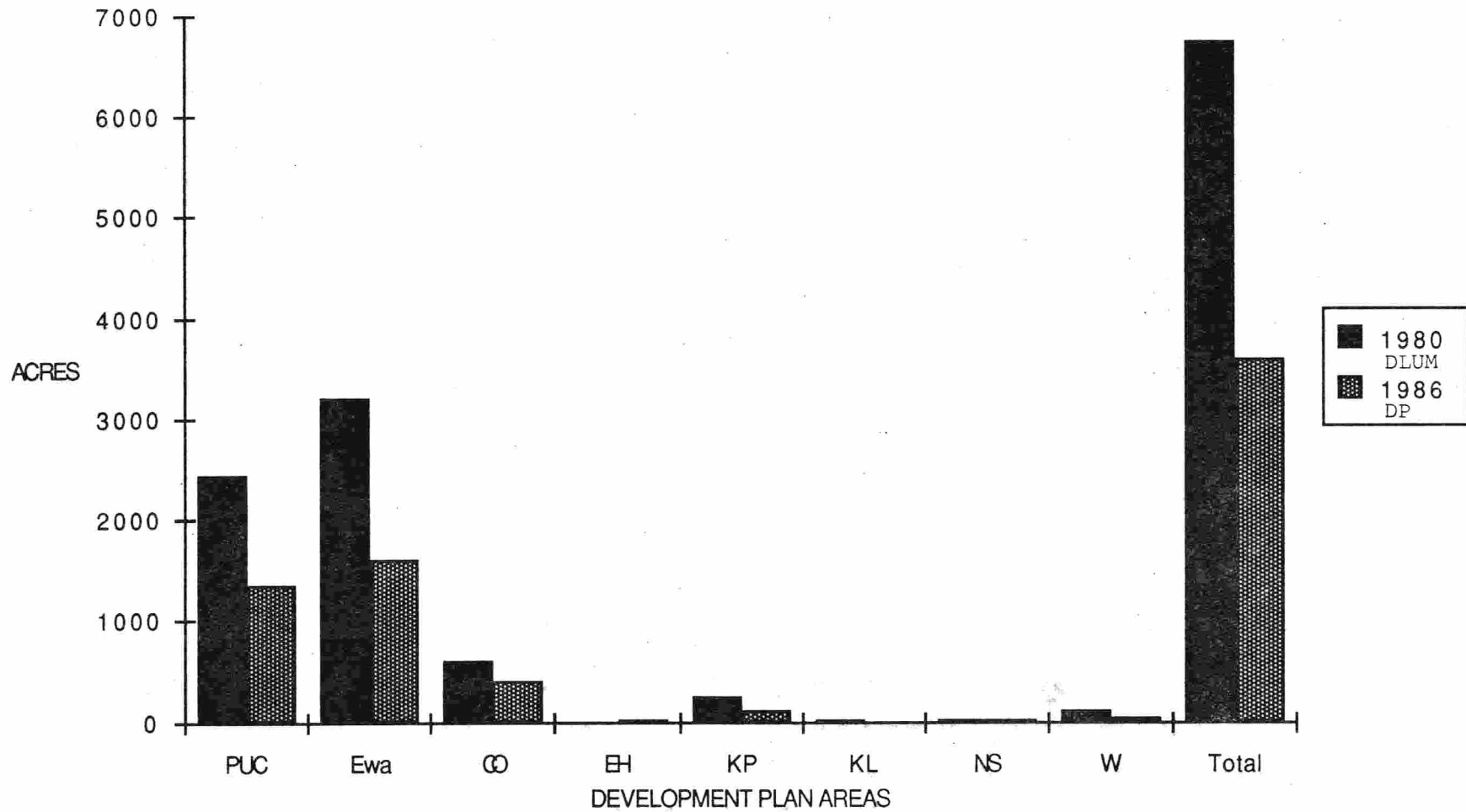


(Note: Categories with approximately 50 acres or less do not register on charts)

TABLE II-9

COMPARISON OF 1980 GP/DLUM AND 1986 DP DESIGNATIONS:
INDUSTRIAL

-15-



(Note: Categories of approximately 100 acres or less do not register on chart)

TABLE II-10

COMPARISON OF 1980 GP/DLUM AND 1986 DP DESIGNATIONS:
COMMERCIAL

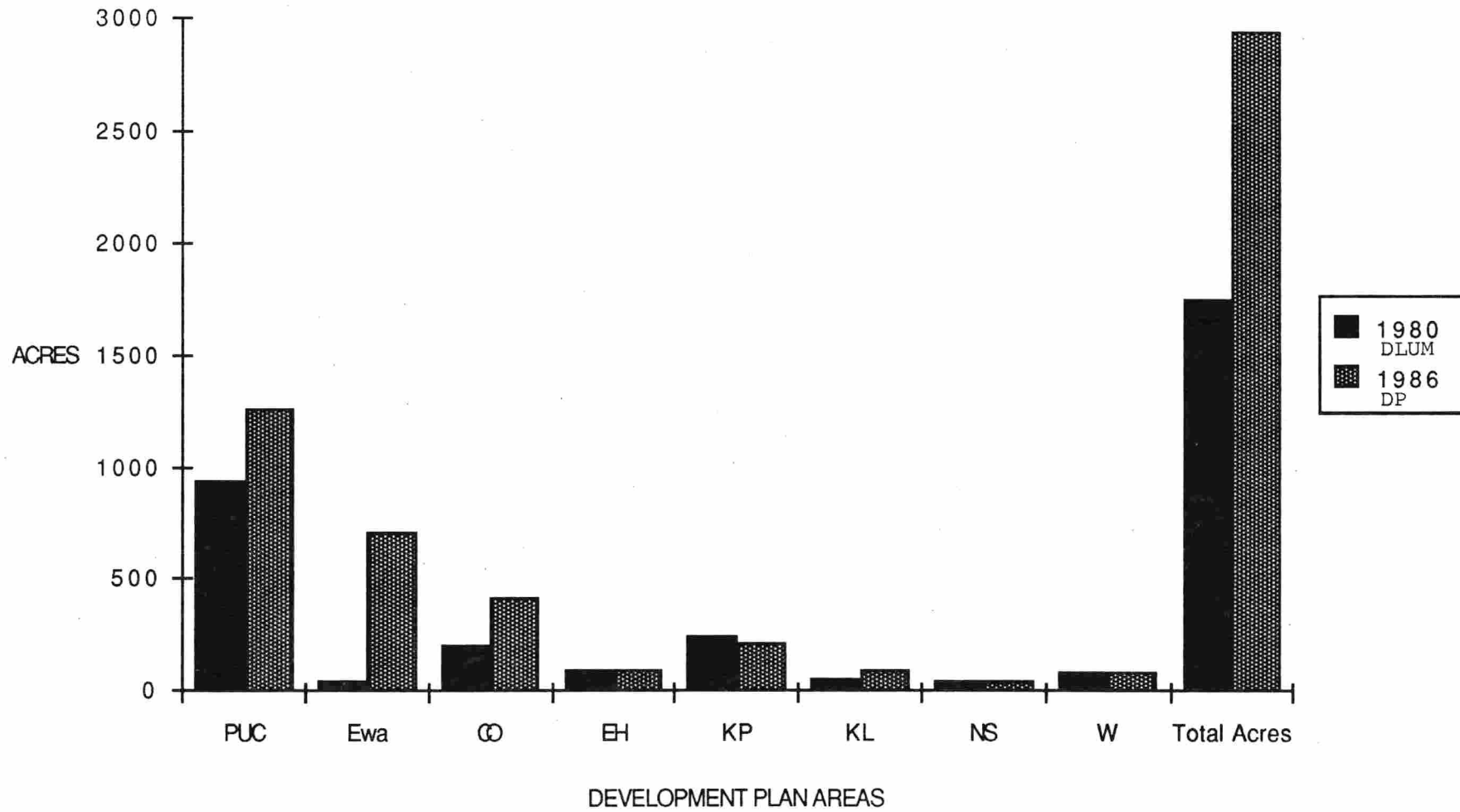


TABLE II-11

APPROXIMATE ACREAGE CHANGES IN
DEVELOPMENT PLAN DESIGNATIONS, 1982-87

<u>Land Use Designations Identified in DP Amendment Changes</u>	<u>Designations Changed From (in acres)</u>	<u>Designations Changed To (in acres)</u>	<u>Net Change (in acres)</u>
Preservation	4,000	1,550	(2,450)
Agriculture	4,500	560	(3,940)
Residential	540	1,885	1,345
Low Density Apartment	75	890	815
Medium Density Apartment	30	180	150
High Density Apartment	5	5	0
Resort	40	205	165
Commercial	40	800	760
Industrial	420	425	5
Parks	420	3,770	3,350
Military	1,075	0	(1,075)
Public Facilities	90	1,970	1,880
Street	5	0	(5)
Special Planning Area	1,000	0	(1,000)
 TOTAL	 12,240+	 12,240+	

TABLE II-12

COMPARISON OF LAND USE CLASSIFICATIONS

<u>Categories</u>	<u>Development Plan Land Use Designation January 1, 1987 (acres)</u>	<u>Portion of Oahu Land (%)</u>	<u>Real Property Assessments July 1, 1987 (acres)</u>	<u>Portion of Oahu Land (%)</u>
Residential	27,047	7	71,002 ^a	19 ^a
Apartment	4,193	1	2,472	1
Total for Housing	31,240	8	73,474	20
Commercial	2,942	1	2,826	1
Industrial	3,593	1	10,316	3
Resort	523	<1	510	<1
Total for Business	7,058	2	13,652	4
Agricultural	114,554	31	135,598	36
Parks & Recreation	7,872	2		
Preservation	160,447	43	150,113 ^b	40
Total for Open Space	282,873	76	285,711	76
Public & Quasi-Public	11,256	3		
Military	39,433	11		
Total for Government	50,466	13		
Other	4,009	1		
Oahu	375,646	100	372,837	100

^aTotal of improved residential (38,708 acres and 10%) and unimproved residential (32,294 acres and 9%) categories.

^bReal property assessment uses "conservation" classification.

Source: Department of Business and Economic Development, State of Hawaii Data Book, 1987 and City and County of Honolulu, Department of General Planning, Land Use reports

TABLE II-13

HAWAII LAND OWNERSHIP

<u>Owner</u>	1985		1986	
	<u>Area</u> <u>(acres)</u>	<u>Proportion</u> <u>(%)</u>	<u>Area</u> <u>(acres)</u>	<u>Proportion</u> <u>(%)</u>
Total Land Considered ^a	3,936,876	100	3,934,165	100
Land Owned by Government	<u>1,537,325</u>	<u>39</u>	1,497,713	<u>38</u>
Counties	15,067	0.4	15,210	0.4
State of Hawaii	1,194,852	30	1,152,595	29
Federal	327,406	8	329,908	8
Private Ownership	<u>2,399,551</u>	<u>61</u>	2,436,452	<u>62</u>
<u>Large Landowners</u> ^b	941,586	24	938,422	24
Bishop Estate	341,138	9	340,771	9
Parker Ranch ^c	139,301	4	139,301	4
Castle & Cooke, Inc.	150,000	4	149,400	4
C. Brewer & Co., Ltd.	94,688	2	92,591	2
Damon Estate	121,659	3	121,659	3
Alexander & Baldwin, Inc.	94,800	2	94,700	2
<u>Other Private Landowners</u>	1,457,965	37	1,498,030	38

^aTotals differ from other official area estimates because of omission of public thoroughfares and other reasons.

^bOf the land in private ownership 39% is owned by the six large land owners listed. Figures are landowners' best estimates.

^cTotal size of Parker Ranch in 1984 was 225,000 acres, which includes leased land.

Source: Department of Planning and Economic Development,
State of Hawaii Data Book, 1985, 1986, 1987

TABLE II-14

LAND OWNERSHIP ON OAHU

<u>Owner</u>	<u>1985</u>		<u>1987</u>	
	<u>Area</u> <u>(acres)</u>	<u>Proportion</u> <u>(%)</u>	<u>Area</u> <u>(acres)</u>	<u>Proportion</u> <u>(%)</u>
Total Land Considered ^a	<u>349,559</u>	<u>100</u>	<u>349,767</u>	<u>100</u>
Land Owned by Government	<u>129,183</u>	<u>37</u>	<u>128,555</u>	<u>37</u>
City and County of Honolulu	11,575	3	10,128	3
State of Hawaii	68,012	20	69,554	20
Federal	49,596	14	48,873	14
Private Ownership	<u>220,376</u>	<u>63</u>	<u>221,212</u>	<u>63</u>

^aTotals differ from other official area estimates because of omission of public thoroughfares and other reasons.

Source: Department of Planning and Economic Development,
State of Hawaii Data Book, 1985

Department of Business and Economic Development,
State of Hawaii Data Book, 1987

B. Land Use Map Adopted Amendments

The following two tables are a compilation of statistics based on a detailed review of the status of implementation of 300 amendments to the Development Plan adopted since 1982. Table II-15 gives the number of amendments adopted each year (bottom row) and the number each year by DP Area.

Table II-18 is a summary of the status for all the DP Areas. Each amendment is determined to be in one of three categories indicating progress or the lack of it. They are classified as either no action since the amendment, completed, or underway, meaning that some significant activity has taken place since the amendment. Those projects considered "complete," including 140 previously reported and 31 in this report, will not be reported on in the next annual DPSR. They fall into two subcategories, "ministerial," for which there is no project proposed as the purpose of the amendment and "development," for which a project was originally proposed and has now been completed. Ministerial completions are amendments for the purpose of recognizing existing uses, correcting mapping errors by making boundary changes, and other administrative changes. In some cases, zone changes may be required to be in conformity with the DP. All projects classified as underway are further described to indicate where in the process of completion they are at the cutoff date for this report, i.e., June 30, 1988. A complete listing of project status codes can be found in Table II-27.

As can be seen from the last column of Table II-18, a total of 21 developments have been completed subsequent to a Land Use Map amendment since 1982. Fifty percent of the 300 total amendments were for administrative or ministerial purposes. Sixty-one projects have made no progress and another 68 are now "underway." Of the 23% underway, 8 are experiencing some significant delays, 27 are in the planning stage, and 20 are being processed for additional governmental changes or permits. Of the 68 projects underway, 12 or 18% are under construction.

Tables II-19 through II-26 breakout the same status categories for each of the eight DP Areas, statistics which have been combined in Table II-18. Ewa (15 projects), Koolaupoko (14 projects), and Central Oahu (18 projects) have the most projects underway. Koolauloa, North Shore, and Waianae have no projects under construction as a result of a DP amendment. A total of 36 projects are underway in the Growth Areas (Primary Urban Center, Ewa, Central Oahu), 19 in the Suburban Fringe Areas (East Honolulu, Koolaupoko), and 13 in the Rural Areas (Koolauloa, North Shore, Waianae).

Further indications of development activity during the last seven years can be derived from the number of applications received by the City and County for land use changes and permits. These are shown for FY 1981 through FY 1987 in Table II-28. The number of amendments to the Land Use Map adopted each year is shown for comparison purposes.

Table II-15

DEVELOPMENT PLAN LAND USE MAP AMENDMENTS ADOPTED

Development Plan Area	1982	1983	1984	1985	1986	1987	Total Adopted
Primary Urban Center	71	21 ^a	21 ^a	12	6	3	134
Ewa	5	3	3	7	2	1	21
Central Oahu	0	12	8	6 ^b	2	4	32
East Honolulu	0	10	3	1	1	0	15
Koolaupoko	0	24	16	4	4	1	49
Koolauloa	0	9	7	3	0	0	19
North Shore	0	4	6	1	3	0	14
Waianae	0	6	4	3	1	2	16
Total Adopted	76	89	68	37	19	11	300

^aRevised count - corrected for duplications.

^bRevised count - an amendment not adopted was included in previous Development Plan Status Review.

TABLE II-16

TOTAL LAND USE AMENDMENTS ADOPTED ANNUALLY, 1982 to 1988

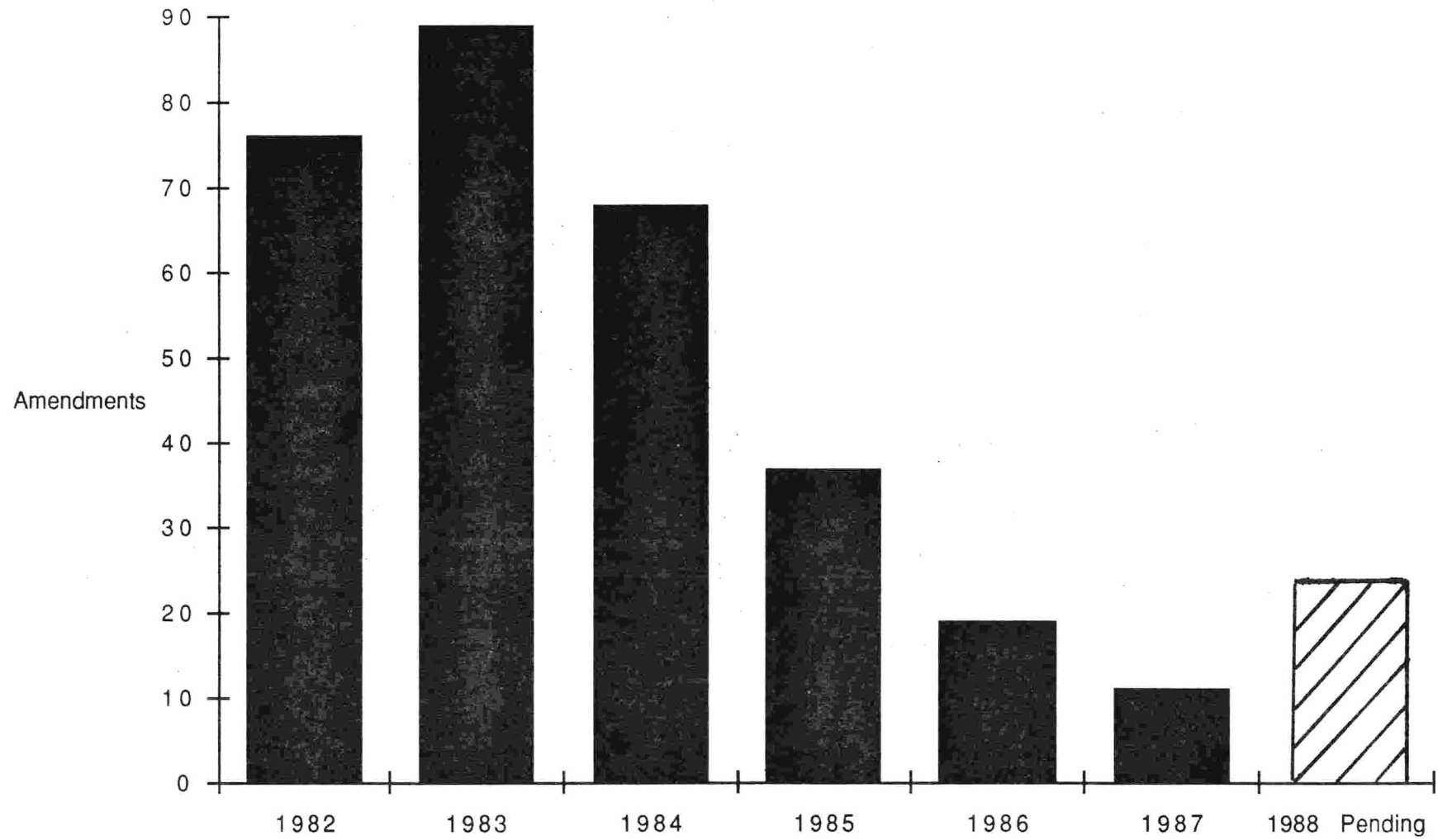


TABLE II-17

NUMBER OF LAND USE AMENDMENTS ADOPTED IN EACH DEVELOPMENT PLAN AREA

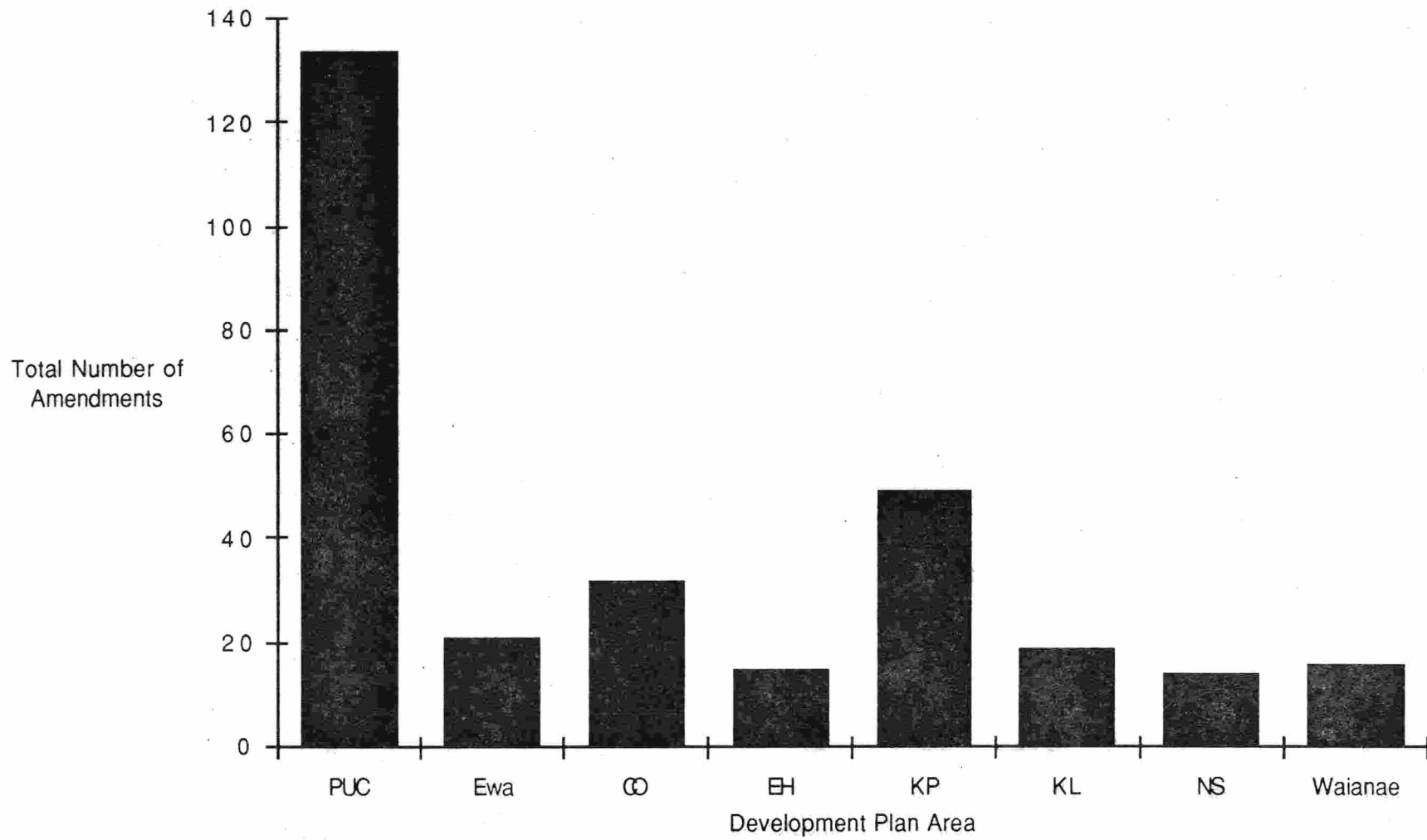


TABLE II-18
SUMMARY OF DEVELOPMENT PLAN LAND USE MAP
ADOPTED AMENDMENTS, FY 1982-1988, STATUS

Status	Primary Urban Center (no.)	Ewa (no.)	Central Oahu (no.)	East Honolulu (no.)	Koolau- poko (no.)	Koolau- loa (no.)	North Shore (no.)	Waianae (no.)	Total Adopted (no.)
Amendments Adopted ^a	134	21	32	15	49	19	14	16	300
Previously Completed (12) ^b	68	4	11	4	28	10	8	7	140
Ministerial ^c	66	2	10	4	24	10	8	7	131
Development	2	2	1	0	4	0	0	0	9
No Action (1)	38	1	4	5	5	2	1	5	61
Completed (12) ^d	19	1	5	1	2	1	2	0	31
Ministerial	12	0	3	1	1	0	2	0	19
Development	7	1	2	0	1	1	0	0	12
Underway ^e	9	15	12	5	14	6	3	4	68
Delay									
Financial (2)		2							2
Market (3)					4	1			5
Infrastructure (4)									
Legal (15)					1				1
Project Planning (5)	4	7	3	2	3	4	2	2	27
Processing									
Environmental Assmt (6)						1			1
Zone Change (7)	1	1	1					2	5
Subdivision (8)			4		3				7
Special Permits & Certificates (9a)	1		1	1					3
Land Use Commission(9b)									
Building Permit (10)			1		1		1		3
Land Acquisition (14)		1							1
Under Construction (11)	3	4	2	2	1				12
Selling Renting (16)					1				1

^aAs of June 30, 1988. All projects are considered to be either "no action," "completed," or "underway."
Number in () indicates Project Status Code.

^bCompleted as of June 30, 1986.

^cCovers administrative types of amendments; e.g., recognizing existing uses or boundary adjustments for which project development and construction are not applicable.

^dCompleted between July 1, 1986 and June 30, 1988; includes existing use (13) and no development impact (17).

^eProgress & stage of these projects described below. More than one code can be applied to a project.

TABLE II-19

SUMMARY OF DEVELOPMENT PLAN LAND USE MAP
ADOPTED AMENDMENTS, FY 1982-1988, STATUS

PRIMARY URBAN CENTER

Status ^a	1982 (no.)	1983 (no.)	1984 (no.)	1985 (no.)	1986 (no.)	1987 (no.)	Totals (no.)
Amendments Adopted	71	21	21	12	6	3	134
Previously Completed ^b	39	12	11	6	--	--	68
No Action (1)	18	6	8	4	1	1	38
Completed (12) By 6/30/88	8	2	0	2	5	2	19
Ministerial ^c	1	2	0	2	5	2	12
Development	7	0	0	0	0	0	7
Underway ^d	6	1	2	0	0	0	9
Delay							
Financial (2)							
Market (3)							
Infrastructure (4)							
Legal (15)							
Project Planning (5)	4						4
Processing							
Environmental							
Assessment (6)							
Zone Change (7)			1				1
Subdivision (8)							
Special Permits and							
Certificates (9a)	1						1
Land Use Commission (9b)							
Building Permit (10)							
Land Acquisition (14)							
Under Construction (11)	1	1	1				3
Selling, Renting (16)							

^aAs of June 30, 1988. All Projects are considered to be either "no action," "completed," or "underway." Number in () indicates Project Status Code.

^bCompleted as of June 30, 1986.

^cCovers administrative types of amendments, e.g., recognize existing use or boundary adjustments, for which project development and construction are not applicable.

^dProgress and stage of these projects described below. More than one code can be applied to a project.

TABLE II-20

SUMMARY OF DEVELOPMENT PLAN LAND USE MAP
ADOPTED AMENDMENTS, FY 1982-1988, STATUS

Status ^a	EWA						Totals (no.)
	1982 (no.)	1983 (no.)	1984 (no.)	1985 (no.)	1986 (no.)	1987 (no.)	
Amendments Adopted	5	3	3	7	2	1	21
Previously Completed ^b	0	2	1	1	--	--	4
No Action (1)	0	1	0	0			1
Completed (12) By 6/30/88	1	0	0	0	0	0	1
Ministerial ^c	0	0	0	0	0	0	0
Development	1	0	0	0	0	0	1
Underway ^d	4	0	2	6	2	1	15
Delay							
Financial (2)	1		1				2
Market (3)							
Infrastructure (4)							
Legal (15)							
Project Planning (5)	1		1	3	1	1	7
Processing							
Environmental							
Assessment (6)							
Zone Change (7)				1			1
Subdivision (8)							
Special Permits and							
Certificates (9a)							
Land Use Commission (9b)							
Building Permit (10)							
Land Acquisition (14)				1			1
Under Construction (11)	2			1	1		4
Selling, Renting (16)							

^aAs of June 30, 1988. All Projects are considered to be either "no action," "completed," or "underway." Number in () indicates Project Status Code.

^bCompleted as of June 30, 1986.

^cCovers administrative types of amendments, e.g., recognize existing use or boundary adjustments, for which project development and construction are not applicable.

^dProgress and stage of these projects described below. More than one code can be applied to a project.

TABLE II-21

SUMMARY OF DEVELOPMENT PLAN LAND USE MAP
ADOPTED AMENDMENTS, FY 1982-1988, STATUS

CENTRAL OAHU

Status ^a	1982 (no.)	1983 (no.)	1984 (no.)	1985 (no.)	1986 (no.)	1987 (no.)	Totals (no.)
Amendments Adopted	0	12	8	6	2	4	32
Previously Completed ^b		6	2	3	--	--	11
No Action (1)		2	1	1	0	0	4
Completed (12) By 6/30/88		2	0	0	2	1	5
Ministerial ^c		1	0	0	1	1	3
Development		1	0	0	1	0	2
Underway ^d		2	5	2	0	3	12
Delay							
Financial (2)							
Market (3)							
Infrastructure (4)							
Legal (15)							
Project Planning (5)		1	1			1	3
Processing							
Environmental							
Assessment (6)							
Zone Change (7)						1	1
Subdivision (8)			1	2		1	4
Special Permits and							
Certificates (9a)		1					1
Land Use Commission (9b)							
Building Permit (10)			1				1
Land Acquisition (14)							
Under Construction (11)			2				2
Selling, Renting (16)							

^aAs of June 30, 1988. All Projects are considered to be either "no action," "completed," or "underway." Number in () indicates Project Status Code.

^bCompleted as of June 30, 1986.

^cCovers administrative types of amendments, e.g., recognize existing use or boundary adjustments, for which project development and construction are not applicable.

^dProgress and stage of these projects described below. More than one code can be applied to a project.

TABLE II-22

SUMMARY OF DEVELOPMENT PLAN LAND USE MAP
ADOPTED AMENDMENTS, FY 1982-1988, STATUS

EAST HONOLULU

Status ^a	1982 (no.)	1983 (no.)	1984 (no.)	1985 (no.)	1986 (no.)	1987 (no.)	Totals (no.)
Amendments Adopted	--	10	3	1	1	0	15
Previously Completed ^b		1	3	0	--	--	4
No Action (1)	--	5	0	0	0		5
Completed (12) By 6/30/88	--	0		0	1		1
Ministerial ^c	--	0	0	0	1		1
Development	--	0	0	0	0		0
Underway ^d	--	4	0	1	0		5
Delay							
Financial (2)							
Market (3)							
Infrastructure (4)							
Legal (15)							
Project Planning (5)		1		1			2
Processing							
Environmental							
Assessment (6)							
Zone Change (7)							
Subdivision (8)							
Special Permits and							
Certificates (9a)		1					1
Land Use Commission (9b)							
Building Permit (10)							
Land Acquisition (14)							
Under Construction (11)		2					2
Selling, Renting (16)							

^aAs of June 30, 1988. All Projects are considered to be either "no action," "completed," or "underway." Number in () indicates Project Status Code.

^bCompleted as of June 30, 1986.

^cCovers administrative types of amendments, e.g., recognize existing use or boundary adjustments, for which project development and construction are not applicable.

^dProgress and stage of these projects described below. More than one code can be applied to a project.

TABLE II-23

SUMMARY OF DEVELOPMENT PLAN LAND USE MAP
ADOPTED AMENDMENTS, FY 1982-1988, STATUS

KOOLAUPOKO

Status ^a	1982 (no.)	1983 (no.)	1984 (no.)	1985 (no.)	1986 (no.)	1987 (no.)	Totals (no.)
Amendments Adopted	0	24	16	4	4	1	49
Previously Completed ^b		15	9	4	--	--	28
No Action (1)	--	3	1	0	0	1	5
Completed (12) By 6/30/88	--	1	0	0	1	0	2
Ministerial ^c	--	0	0	0	1	0	1
Development	--	1	0	0	0	0	1
Underway ^d	--	5	6	0	3	0	14
Delay							
Financial (2)							
Market (3)		3	1				4
Infrastructure (4)							
Legal (15)		1					1
Project Planning (5)			2		1		3
Processing							
Environmental							
Assessment (6)							
Zone Change (7)							
Subdivision (8)			3				3
Special Permits and							
Certificates (9a)							
Land Use Commission (9b)							
Building Permit (10)		1					1
Land Acquisition (14)							
Under Construction (11)					1		1
Selling, Renting (16)					1		1

^aAs of June 30, 1988. All Projects are considered to be either "no action," "completed," or "underway." Number in () indicates Project Status Code.

^bCompleted as of June 30, 1986.

^cCovers administrative types of amendments, e.g., recognize existing use or boundary adjustments, for which project development and construction are not applicable.

^dProgress and stage of these projects described below. More than one code can be applied to a project.

TABLE II-24

SUMMARY OF DEVELOPMENT PLAN LAND USE MAP
ADOPTED AMENDMENTS, FY 1982-1988, STATUS

KOOLAULOA

Status ^a	1982 (no.)	1983 (no.)	1984 (no.)	1985 (no.)	1986 (no.)	1987 (no.)	Totals (no.)
Amendments Adopted	0	9	7	3	0	0	19
Previously Completed ^b		4	4	2	--	--	10
No Action (1)	--	2	0	0			2
Completed (12) By 6/30/88	--	0	0	1			1
Ministerial ^c	--			0			0
Development	--			1			1
Underway ^d	--	3	3	0			6
Delay							
Financial (2)							
Market (3)		1					1
Infrastructure (4)							
Legal (15)							
Project Planning (5)		1	3				4
Processing							
Environmental							
Assessment (6)		1					1
Zone Change (7)							
Subdivision (8)							
Special Permits and							
Certificates (9a)							
Land Use Commission (9b)							
Building Permit (10)							
Land Acquisition (14)							
Under Construction (11)							
Selling, Renting (16)							

^aAs of June 30, 1988. All Projects are considered to be either "no action," "completed," or "underway." Number in () indicates Project Status Code.

^bCompleted as of June 30, 1986.

^cCovers administrative types of amendments, e.g., recognize existing use or boundary adjustments, for which project development and construction are not applicable.

^dProgress and stage of these projects described below. More than one code can be applied to a project.

TABLE II-25

SUMMARY OF DEVELOPMENT PLAN LAND USE MAP
ADOPTED AMENDMENTS, FY 1982-1988, STATUS

NORTH SHORE

Status ^a	1982 (no.)	1983 (no.)	1984 (no.)	1985 (no.)	1986 (no.)	1987 (no.)	Totals (no.)
Amendments Adopted	0	4	6	1	3	0	14
Previously Completed ^b		4	3	1	--	--	8
No Action (1)	--	0	1	0			1
Completed (12) By 6/30/88	--	0	0	0	2		2
Ministerial ^c	--	0	0	0	2		2
Development	--	0	0	0	0		0
Underway ^d	--	0	2	0	1		3
Delay							
Financial (2)							
Market (3)							
Infrastructure (4)							
Legal (15)							
Project Planning (5)			2				2
Processing							
Environmental							
Assessment (6)							
Zone Change (7)							
Subdivision (8)							
Special Permits and							
Certificates (9a)							
Land Use Commission (9b)							
Building Permit (10)					1		1
Land Acquisition (14)							
Under Construction (11)							
Selling, Renting (16)							

^aAs of June 30, 1988. All Projects are considered to be either "no action," "completed," or "underway." Number in () indicates Project Status Code.

^bCompleted as of June 30, 1986.

^cCovers administrative types of amendments, e.g., recognize existing use or boundary adjustments, for which project development and construction are not applicable.

^dProgress and stage of these projects described below. More than one code can be applied to a project.

TABLE II-26

SUMMARY OF DEVELOPMENT PLAN LAND USE MAP
ADOPTED AMENDMENTS, FY 1982-1988, STATUS

WAIANAE

Status ^a	1982 (no.)	1983 (no.)	1984 (no.)	1985 (no.)	1986 (no.)	1987 (no.)	Totals (no.)
Amendments Adopted	0	6	4	3	1	2	16
Previously Completed ^b		3	0	3	1	--	7
No Action (1)	--	3	2	0	0	0	5
Completed (12) By 6/30/88	--	0	0	0	0	0	0
Ministerial ^c	--	0	0	0	0	0	0
Development	--	0	0	0	0	0	0
Underway ^d	--	0	2	0	0	2	4
Delay							
Financial (2)							
Market (3)							
Infrastructure (4)							
Legal (15)							
Project Planning (5)			2				2
Processing							
Environmental							
Assessment (6)							
Zone Change (7)						2	2
Subdivision (8)							
Special Permits and							
Certificates (9a)							
Land Use Commission (9b)							
Building Permit (10)							
Land Acquisition (14)							
Under Construction (11)							
Selling, Renting (16)							

^aAs of June 30, 1988. All Projects are considered to be either "no action," "completed," or "underway." Number in () indicates Project Status Code.

^bCompleted as of June 30, 1986.

^cCovers administrative types of amendments, e.g., recognize existing use or boundary adjustments, for which project development and construction are not applicable.

^dProgress and stage of these projects described below. More than one code can be applied to a project.

TABLE II-27
LAND USE PROJECT
STATUS CODE

1. No Action
2. Financial Delay
3. Market Delay
4. Infrastructure Delay
5. Project Planning
6. Environmental Assessment in Process
7. Zone Change in Process
8. Subdivision in Process
9. a. Special Permits and/or Certificates in Process
b. Land Use Commission
10. Building Permit in Process
11. Under Construction
12. Completed
13. No Development Impact
14. Land Acquisition
15. Legal Delay
16. Selling or Renting
17. Reflect Existing Uses
18. Redefine Boundaries
19. Change DP Areas
20. Downzone
21. Other

TABLE II-28

LAND USE CHANGE AND DEVELOPMENT REQUEST ACTIVITY

Applications Received	FY 1981 (no.)	FY 1982 (no.)	FY 1983 (no.)	FY 1984 (no.)	FY 1985 (no.)	FY 1986 (no.)	FY 1987 (no.)
Environmental Impact Statements Reviewed	156	79	82	88	81	77	93
Shoreline Management Permit	128	140	84	83	105	128	115
Rezoning	21	19	18	23	25	83	25
Historic, Cultural and Scenic Districts ^a	174	89	126	139	137	149	224
Subdivision ^b	355	311	331	337	258	332	357
Grading Plans Reviewed	152	125	135	128	157	142	126
Construction Plans Reviewed	149	137	203	169	115	148	175
Building Permit	3,207	2,482	2,328	2,825	4,520	6,762	6,345
Conditional Use Permit	17	14	25	21	19	38	100
Variance	262	213	216	189	232	170	140
Development Plan Land Use Map Amendments Adopted	-	76	89	68	37	19	11

^aRedefined as Special Districts effective with the Land Use Ordinance (LUO) FY 1986-87.

^bIncludes public utility easements.

Source: Departmental and Agency Reports of the City and County of Honolulu, for Fiscal Year July 1, 1986 - June 30, 1987.

C. Public Facilities Map Projects

Public Facilities (PF) depicted on the current Public Facilities Map are categorized in Tables II-29 and II-30. Table II-29 breaks out the total of 913 Public Facilities according to the DP Areas in which they are located. The last line shows the number in each DP Area, e.g., 341 in the Primary Urban Center. The last column totals show that 604 are City and County of Honolulu projects, 111 are State of Hawaii projects, and 197 are privately-funded projects. The second portion of Table II-29 categorizes the status of the 913 facilities as either "no action," "completed," or "underway." Definitions for status of implementation, siting, and the timing of public projects are given in Table II-31.

There is no current activity for 63% of the projects on the map. Sixteen percent of the projects have some funding and 8% have been completed and will be transferred to the Land Use Map. Site determination has been made for 85% of the facilities. For the 716 public projects, an estimate is made of whether the project is scheduled or likely to commence within 6 years or beyond. Almost two-thirds of the public projects, 63%, are expected to begin within 6 years.

Table II-30 tabulates Public Facilities according to the Governmental Agency or Private Organization responsible for developing them. The City and County has 66%, Private developers, 22%, and the State 12%, most of which are highway related projects. Of the City and County projects, 39% are in the Department of Transportation Services and 22% are in the Department of Public Works, and another 15% are Board of Water Supply projects.

A complete list of the 913 adopted Public Facilities Map projects can be found in Volume III. Since the previous DPSR, the number of City and County projects have increased by 31, State projects by 27, and privately funded projects by 10.

TABLE II-29
SUMMARY OF PUBLIC FACILITIES MAP PROJECT STATUS
As of June 30, 1988

Agencies & Status	Primary Urban Center (no.)	Ewa (no.)	Central Oahu (no.)	East Honolulu (no.)	Koolau- poko (no.)	Koolau- loa (no.)	North Shore (no.)	Waianae (no.)	Totals (no.)
City & County	<u>274</u>	<u>35</u>	<u>57</u>	<u>19</u>	<u>118</u>	<u>35</u>	<u>30</u>	<u>36</u>	<u>604</u>
Board of Water Supply	16	2	12	4	18	22	4	12	90
Bldg. Dept.	13				2				15
Public Works	59	5	10	3	37	4	6	10	134
Drainage		21	1	1		9	1	2	38
Refuse		2	3	4	1	6	1	1	19
Wastewater		34	1	5	1	22	2	3	75
Other		2							2
Transportation Svcs	145	9	24	5	41		7	7	238
Fire Dept.	1	4	3		3	3	1	1	16
Police Dept.	5	1	2	1	2	1	1	1	14
Housing & Cmty Dev.	12	2					1		15
Parks & Rec.	23	12	6	6	15	5	10	5	82
State	<u>57</u>	<u>7</u>	<u>16</u>	<u>1</u>	<u>19</u>	<u>2</u>	<u>3</u>	<u>6</u>	<u>111</u>
Acctg. & General Svcs	17		3		2		1	1	24
Education	1	1	3			1		3	9
Transportation	38	6	10	1	16	1	2	2	76
Airports		1							1
Harbors		6				1			7
Highways		31	6	10	1	15	1	2	68
Land & Natural Res.	1				1				2
Federal Post Office	<u>1</u>								<u>1</u>
Private	<u>9</u>	<u>110</u>	<u>55</u>	<u>0</u>	<u>6</u>	<u>16</u>	<u>0</u>	<u>1</u>	<u>197</u>
Totals	341	152	128	20	143	53	33	43	913

TABLE II-29 (Continued)
SUMMARY OF PUBLIC FACILITIES MAP PROJECT STATUS
As of June 30, 1988

Agencies & Status	Primary Urban Center (no.)	Ewa (no.)	Central Oahu (no.)	East Honolulu (no.)	Koolau- poko (no.)	Koolau- loa (no.)	North Shore (no.)	Waianae (no.)	Totals (no.)
Status ^a									
No Action (1)	227	82	80	12	85	38	27	24	575
Completed (5) ^b	26	5	8	2	16	4	2	8	71
Underway (2-4, 6)	88	65	40	6	42	11	4	11	267
P&E Funds (2)	30		2	8		18	4	1	68
Land/Const. Funds (3, 6)	21		5	21	2	15	4	0	76
Land/Const. (4)	37		58	11	0	9	3	2	123
Siting									
Determined	316	118	111	15	127	32	20	36	775
Undetermined	25	34	17	5	16	21	13	7	138
Timing (Public)									
Within 6 yrs.	219	18	56	12	69	30	17	28	449
Beyond 6 yrs.	113	23	17	8	68	8	16	14	267
No Timing Schedule (Private)	9	111	55	0	6	15	0	1	197

^aAll projects are either "no action," completed," or "underway."

^bCompleted projects are removed from the Public Facilities Map and added to the Land Use Map.

TABLE II-30
SUMMARY OF PUBLIC FACILITIES MAP PROJECTS BY AGENCY
As of June 30, 1988

Agencies	Siting (no.)		Phasing Public (no.)		Status (no.) ^a						Totals (no.)
	Deter- mined	Undeter- mined	Within 6 yrs.	Beyond 6 yrs.	No Action (1)	Com- pleted ^b (5)	Underway				
							P&E Funds (2)	Land, Const. Funds (3 & 6)	Land Const. (4)		
City & County	<u>511</u>	<u>93</u>	<u>362</u>	<u>242</u>	<u>416</u>	<u>49</u>	<u>50</u>	<u>48</u>	<u>41</u>	<u>604</u>	
Board of Water Supply	67	23	82	8	40	10	19	8	13	90	
Bldg Dept.	12	3	13	2	8	1	1	2	3	15	
Public Works	124	10	98	36	65	20	20	17	12	134	
Drainage		38	0	16	22	29		4	2	38	
Refuse		14	5	11	8	8		2	2	19	
Wastewater		70	5	69	6	27		14	13	75	
Other		2	0	2	0	1		0	0	2	
Transportation Svcs.	224	14	93	145	221	7	6	3	1	238	
Fire Dept.	7	9	6	10	13	1	0	2	0	16	
Police Dept.	8	6	11	3	10	1	0	1	2	14	
Housing & Cmty Devp.	15	0	15	0	5	2	3	4	2	15	
Parks & Recreation	54	28	44	38	55	7	1	11	8	82	
State	<u>98</u>	<u>13</u>	<u>86</u>	<u>25</u>	<u>53</u>	<u>13</u>	<u>17</u>	<u>6</u>	<u>22</u>	<u>111</u>	
Acctg. & Gen Svcs.	21	3	22	2	6	4	3	3	8	24	
Education	5	4	6	3	5	1	0	0	3	9	
Transportation	70	6	56	20	42	7	14	2	11	76	
Airports		0	1	1	0	1		0	0	1	
Harbors		3	4	7	0	3		1	1	7	
Highways		67	1	48	20	28		13	1	68	
Land & Natural Res.	2	0	2	0	0	1	0	1	0	2	
Federal	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	
Post Office											
Private	<u>165</u>	<u>32</u>	No Timing Schedule		<u>105</u>	<u>9</u>	<u>1</u>	<u>22</u>	<u>60</u>	<u>197</u>	
Totals	775	138	449	267	575	71	68	76	123	913	

^aAll projects are either "no action," "completed," or "underway."

^bCompleted projects are removed from the Public Facilities Map and added to the Land Use Map.

TABLE II-31

PUBLIC FACILITIES
DESCRIPTION OF DATA ITEMS

1. Map Number

Project identification numbers indicated on the Development Plan Public Facilities Project Identification Maps. These maps are on file at the Department of General Planning.

2. Timing Code

This indicates the DP Public Facilities timing categories specified by the facilities symbol shown on the DP Public Facilities Maps.

W - Within 6 years

B - Beyond 6 years

P - Privately funded project

(private projects do not require a timing designation)

3. Site Code

This indicates whether a specific site for the project has been determined.

D - site determined

U - site undetermined

4. Project Implementation Status Code

No Action - 1

For public projects, funds have not been budgeted to this project.

For private projects, plans have not been completed or financing secured. Necessary permits have not been obtained.

P&E Funds Budgeted - 2

Funds have been budgeted for planning, engineering, design, or other studies.

Land Acquisition/Construction Funds Budgeted - 3

Funds have been budgeted for land acquisition or project construction.

Land Acquisition/Construction Underway - 4

Actions to acquire the necessary land or actual construction of the project is proceeding.

Project Completed - 5

Necessary land acquisition and construction have been completed.

Project is Imminent - 6

For privately funded projects only - necessary plans have been prepared, necessary permits have been obtained, and financing secured. Although the actual construction has not yet begun, it will commence in the near future.

D. Common Provisions Adopted Amendments

Changes to the DP Common Provisions are enumerated in Tables II-32 and II-33. The adopting ordinance numbers and sections amended are listed in Table II-32. Each section changed is described in Table II-33, pointing out the provisions added and deleted and the resulting impact, to the extent known. Further actions to implement the changes are also described where appropriate.

TABLE II-32

AMENDMENTS ADOPTED TO THE
DEVELOPMENT PLANS COMMON PROVISIONS*
1983-1988

<u>Ordinance Number</u>	<u>Sections Amended</u>
84-111	8.3.a
85-71	2.4; 2.5; 2.7; 3.12; 4, 4.7.b; 5.1.a; 7; 9.2; 9.3; 10.2.b, c
86-68	1.1; 1.10; 2.1; 2.9; 8.0; 9.1; 9.2; 13.1-13.3; 14.0
86-76	4.8
87-43	10.(b); 10.(b)(2)(B), (C); 10.(b)(3)(A), (D); 10.(b)(5)(D); 11; 12
88-22	14

*The Common Provisions were initially adopted by Ordinance Numbers 81-79, 81-80, 83-6 through 83-11, and 84-54.

TABLE II-33
DEVELOPMENT PLAN STATUS REVIEW
COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 84-111 Section 8.3.a "Date-Laa Initiative"	<u>Letter of Intent,</u> <u>Consultation, and</u> <u>Application Outline</u> Requires applicant to notify all property owners, etc., of requests for amendments, and to certify notice in writing	Deletes requirement to notify only adjacent and affected neighborhood boards and community associations	DGP Rules changed Procedure implemented; application outline includes instruction Certification required Council, CPO perform for their own initiations	Increased notification, especially to non-owner residents

TABLE II-33 (Continued)
DEVELOPMENT PLAN STATUS REVIEW
COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 85-71 Section 2.4	Amendments must be consistent with common and special provisions, and DGP must explain how it is consistent or conflicts	2.4 deleted wording that amendments must be consistent with DP policies	Part of CPO report	No change
Section 2.5	For DP text amendments, adds requirement to review all other DP provisions in addition to GP objectives and policies		Part of CPO report	Clarification
Section 2.7		Deletes provision which included DP land use or height amendments as requests subject to Section 2.6	None	Clarification
Section 3.12	Requires and explains land uses shown in military areas		Land use color code added to DP Land Use Map in Military areas	Helps to assess compatibility of adjacent civilian and military uses
Section 4	Corrects typo	Removes outdated language relating to urban design ordinances	None	Clarification

TABLE II-33 (Continued)
DEVELOPMENT PLAN STATUS REVIEW
COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 85-71 (Cont)				
Section 4.7.b	Allows any type of housing in mixed use areas		None	Clarification
Section 5.1.a	Makes wording clarifications in principles and controls for parks		None	Clarification
Section 7	Adds transit rights-of-way as public thoroughfare		None	Clarification
	Adds definitions of Major and Minor streets		None	Clarification
Section 9.2	Sentence reworded and clarifications to sequencing priorities		None	Clarification
Section 9.3	Adds legal, health and safety requirements to evaluation of Public Facilities proposal among all DP areas	Deletes a ranking by DP area for each department's Public Facility proposals	None	No change from prior system
Section 10.2.b		Deletes consideration of employment wage rate as a social impact factor	None	None: SIMS not in effect

TABLE II-33 (Continued)
 DEVELOPMENT PLAN STATUS REVIEW
 COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 85-71 (Cont) Section 10.2.c	Adds housing affordable to residents of various income levels as a social impact factor		None	None: SIMS not in effect

TABLE II-33 (Continued)
DEVELOPMENT PLAN STATUS REVIEW
COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 86-68 Section 1.1	Definition of Annual Amendment Review	Definition of Annual Review	Developed new process Processing DGP rules change Begin 1987	Reduce City processing by 6 months
Section 1.10	Definition of Development Plan Status Review		Developing DPSR now	Unknown until first report completed
Section 2.1	Clarifies the name of a project within 6 years as "proposed funding" and that no construction and land acquisition funds can be budgeted for projects with a "site undetermined" symbol		Changed DP processing criteria	Site determined Significant impact - many projects will need to be amended. Also, cannot start amendment until site has been determined
Section 2.9	Flexible interpretation of maps		None	Clarification
Section 2.9.a	Allows certain types of projects to skip DP and go directly to zoning process		Some projects can proceed directly to zoning	Reduces total processing time but eliminates policy review for some items
Section 2.9.b	Explanation of PF maps		None	Not practical or appropriate to implement until Council adoption stage

TABLE II-33 (Continued)
DEVELOPMENT PLAN STATUS REVIEW
COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 86-68 (Cont)				
Section 8	Explanation of major public facilities	Outdated provision relating to funds appropriated prior to adoption of DPs	None	Rewording only. Will add new amendments
Section 9.1	Typo corrections only		Correct typos	None
Section 9.2	Rewording of sequencing policies introductory paragraph		None	Clarification

TABLE II-33 (Continued)
DEVELOPMENT PLAN STATUS REVIEW
COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 86-68 (Cont)				
Section 13.1 to Section 13.3	Makes major changes relating to the kinds of projects which may be processed independently of the Annual Amendment Review:		Revised DGP Procedures and Rules	Broadens and clarifies IC criteria; allows more projects to go IC about 35-40 likely
13.2a(1)				
13.2c				
13.2d	1. Have support facilities available.		Set up concurrent processing	To date about a dozen have been processed
13.2e	2. Not more than 10 acres to preservation or agricultural, 10 acres residential, 5 acres to apartment, commercial or industrial.		Now processing PFs by IC	Reduces coordination with budget process
13.2g	3. Must be similar to abutting uses. 4. Process at any time: private funded, public funded, mistakes, miscalculations. 5. Completed public facilities may be deleted from PF Map and added to LU Maps anytime.			Not new

TABLE II-33 (Continued)
DEVELOPMENT PLAN STATUS REVIEW
COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 86-68 (Cont)				
Section 13.3	Changes Annual Amendment Review deadlines		Process defined; application materials rewritten	Unknown; still in process
13.3b(1)	Annual deadline January 15	Old deadlines deleted	Rules amended January 1987 begins new process	Unknown; still in process
13.3b(2)	Public notified by February 15		Done as required	Unknown; still in process
13.3b(3)-(7)	Reports to Council and Planning Commission by July 1		None as yet	To be implemented July 1, 1987
13.3c	Council recommendations by August 15; Planning Commission recommen- dations by October 1		None as yet	To be implemented August 15 and October 1
13.3c(1)	60 days deadline for CPO report on independent consideration amendments		Reports being expedited	Speeds processing
Section 14	Requirement for CPO annual <u>Development Plan Status Review</u> due to Council March 1 next year		First status review being prepared for FY 1986	Unknown

TABLE II-33 (Continued)
DEVELOPMENT PLAN STATUS REVIEW
COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 86-76 Section 4.8	New section on Rural Areas: defines rural area and establishes principles and controls for development in areas which have rural character	None	Revision of section under study	May affect areas which could be zoned "Country"

TABLE II-33 (Continued)
DEVELOPMENT PLAN STATUS REVIEW
COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 87-43 Section 10.(b)	Adds statement that General Plan policies and the mitigation of negative social impacts be considered		Social costs as well as benefits to be considered in evaluating proposed development	Clarification
Section 10.(b)(2)(B)	Adds public costs or revenues as a social impact factor	Deletes consideration of diversity of employment as a social impact factor	None	Clarify economic factor for consideration
Section 10.(b)(2)(C)	Adds diversity of jobs in DP area as a social impact factor		None	Clarification
Section 10.(b)(3)(A)	Adds range of available housing choices as a social impact factor	Deletes consideration of the availability of housing affordable to residents of various income levels as a social impact factor	None	Clarification
Section 10.(b)(3)(D)	Adds the provision of housing for low to moderate income and gap groups as a social impact factor		None	Clarification

TABLE II-33 (Continued)
DEVELOPMENT PLAN STATUS REVIEW
COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 87-43 (Cont) Section 10.(b)(5)(D)	Adds wording relating to physical attractiveness and qualities (of the area) as a social impact factor	Deletes term aesthetic quality	None	Clarification
Section 11		Deletes entire section on social impact management system	None	Clarify responsibility; no need to establish another separate social impact management system with existing review processes in place
Section 12	Changes wording in accordance with deletion of Section 11 and provides an opportunity for community consultation to identify and resolve or mitigate potentially negative social impacts		None	Clarification; specify additional applicant responsibility

TABLE II-33 (Continued)
DEVELOPMENT PLAN STATUS REVIEW
COMMON PROVISIONS ADOPTED AMENDMENT STATUS

<u>Amendment Section</u>	<u>Provision Added</u>	<u>Provision Deleted</u>	<u>Implementation Actions</u>	<u>Impact</u>
Ord. No. 88-22 Section 14	Change DPSR submission date to September 1		Status review being prepared	Unknown

E. Special Provisions Adopted Amendments

Table II-34 can be used as a guide to the tables in Volume III, Section I describing changes to the Special Provisions for each DP Area. A major change to the Special Provisions resulted from 1983 proposed amendments adopted by 1984 ordinances removing certain provisions from the DP Area Special Provisions and making them Common Provisions.

TABLE 11-34
AMENDMENTS ADOPTED TO THE DEVELOPMENT PLANS SPECIAL PROVISIONS
1982-1988

Development Plan Area	Implementing Ordinance (No.)	1982 Amendments		1983 Amendments		1984 Amendments		1985 Amendments		1986 Amendments		1987 Amendments		1988 Amendments	
		Ord. No.	Sections Changed	Ord. No.	Sections Changed	Ord. No.	Sections Changed	Ord. No.	Sections Changed	Ord. No.	Sections Changed	Ord. No.	Sections Changed	Ord. No.	Sections Changed
Primary Urban Center	81-79	83-25	14.3, 14.5, 15.1, 15.2, 16	84-56	a	85-46	1, 2.1-2, 3, 4.1, 4.2	86-53	1.3, 1.5	87-44	2.(b)(2) (A)	87-122	1, 2.(a)(4)		
Ewa	81-80	83-26	14, 15.1 15.2, 16	84-57	2.2 ^a	85-61	1, 2.1, 2.2	-	-			87-123	1, 2.(a)(4)		
Central Oahu	83-7	-	-	84-59	a	85-48	1, 2.1 2.2	-	-			87-125	1, 2.(a)(4)		
East Honolulu	83-6	-	-	84-58	a	85-47	1-3, 4.1	-	-			87-124	1, 2.(a)(4)		
Koolaupoko	83-8	-	-	84-60	a	85-49	1, 2.1, 3, 4.1, 4.2	-	-			87-126	1, 2.(a)(4)		
Koolauloa	83-9	-	-	84-61	a	85-50	1, 2.1, 2.2, 4.1, 4.2	-	-			87-127	1, 2.(a)(4)		
North Shore	83-10	-	-	84-62	2.1, 3 ^a	85-51	1, 2.1, 3, 4.1, 4.2	-	-			87-128	1, 2.(a)(4)		
Waianae	83-11	-	-	84-63	2.1, 3 ^a	85-52	1, 2.1, 4.1, 4.2	-	-			87-129	1, 2.(a)(4)	88-77	1

^aCommon Provisions were removed from all areas and remaining sections renumbered as Special Provisions

SECTION III.

DEVELOPMENT CAPACITY IN THE DEVELOPMENT PLAN AREAS

Development Capacity

This section describes the capacity of the Development Plans as amended through December 31, 1987 in terms of acreage, housing units and population. This capacity is summarized in Table III-1 for the 8 Development Plan (DP) areas, along with the adopted and proposed population distribution guidelines of the General Plan.

It is important to emphasize that capacity refers to what can be built in the DPs, and not necessarily to what will be built. Whether there will actually be construction in the capacities identified, and when that construction will occur, lie in the realm of forecasting, which requires taking in account both supply and demand factors and their interaction in the housing location process. Capacity estimation can be done using supply considerations alone.

The lands associated with development capacity are called developable lands. Land is defined as developable if its DP designation allows for Residential or Apartment use and it is considered to be either usable, underutilized or the subject of a development action. Land is considered usable if it is level and is either vacant or in Agricultural use. Underutilization is defined only for Apartment-designated lands whose current use is single-family and whose assessed improvement value is less than \$1,000 or is less than 10% of the assessed land value. Land is said to be the subject of a development action if it is being developed, or is in a special policy area such as Kakaako, or has received a land use change vis-a-vis the DPs, zoning, or subdivision.

Table III-1 shows that there are 6,588 acres of developable land on the island excluding Kakaako. About 31% of that, or 2,049 acres, is in Ewa. This large capacity is accounted for almost entirely by seven major Ewa developments: Makakilo, Ko Olina, Ewa Marina, Ewa Gentry, Kapolei Town, the Ko Olina Expansion area approved during the 1985-86 DP review and the West Loch project approved during the 1986 and 1987 reviews. The 502 acres for Kapolei Village have not been included in this total. Another 963 acres or almost 15% of the islandwide total are in Central Oahu, where four major developments are located: Mililani, Village Park, Waikele, and Melemanu/Waipio. Significant amounts of developable land are found in the urban fringe areas of East Honolulu and Koolaupoko, totalling 755 and 773 acres respectively. The Primary Urban Center (PUC) shows only 550 acres of developable land, but it must be noted that acreage is not assigned to the capacity of Kakaako, where 6,300 units of housing are expected to be developed. Estimated acreage has been assigned to Waikiki, mixed use areas, underutilized areas, and the housing developments of the City and State which are located in the Primary Urban Center.

Generally, the rural areas have limited developable lands, such as Koolauloa's 237 acres and North Shore's 376 acres. The exception is Waianae which has 885 acres, but that is due in large measure to the capacity of Makaha Valley. The Makaha projects account for nearly 60% of the developable residential acreage in Waianae.

Based on historical densities and the site studies of developers, capacity in terms of developable land is converted into housing units. Table III-1 shows that 70,300 housing units could be constructed on the 6,588 acres of developable land islandwide. This supply varies among the DP area, ranging from 26,300 units in Ewa to 980 units in North Shore, reflecting differences in the amount of land available as well as the densities expected in the DP areas. The numbers may also differ from projects of previous years, as developers refine their projects and household sizes change reflecting social and economic conditions. Also, the 4,871 units on 502 acres for Kapolei Village have not been included in the above totals.

Table III-1 also shows the total capacity of the DPs by the year 2005, in terms of both housing units and population. Again the Kapolei Village project has been excluded from the projections. Housing capacity gives the number of housing units that can potentially exist in the year 2005. Population capacity indicates the total number of people that can be accommodated by the housing units provided by the DPs.

It is estimated that islandwide there could be as many as 348,600 housing units in the year 2005. Corresponding to the 348,600 units is a population capacity of 976,000, which means that the DPs could accommodate up to 976,000 people. Thus, there is sufficient capacity to accommodate the revised midrange population of 975,100 forecasted by the State Department of Business and Economic Development. Applying the household size of each DP area to the area's housing capacity yields the area's population capacity, which ranges from 467,000 for the PUC to 14,000 for Koolauloa.

Also shown in Table III-1 is the range of population desired under existing General Plan (GP) guidelines for each DP area and the population distributions proposed for the years 2005 and 2010. These proposed population guidelines are based on revised State projections. The GP amendment for population distribution is currently under review by the Planning Commission.

Comparing the population capacities with the GP population ranges is a way to assess the degree to which the population targets in the General Plan can be accommodated by the lands provided in the Development Plans. It appears in this 1988 assessment that for all areas except Ewa and Central Oahu, the capacity of the DP can accommodate the desired population distribution of the GP within the range of variation allowed by

the existing GP guidelines. For Ewa the DP capacity of 115,000 exceeds the maximum of 95,500 people envisioned by the GP; this maximum does not include an adjustment up to 2% of the islandwide population available in Ewa and the PUC to accommodate housing necessary to support an area's business or economic development. The DP capacity of 143,000 in Central Oahu exceeds the GP maximum of 135,500 people. The capacity in Koolauloa will be almost at the GP maximum, while the capacities in North Shore and Waianae will be under the GP maximum by less than 2,000 people. East Honolulu will have a capacity nearly 7,000 people under the GP distribution while the population capacity of the PUC will be 34,000 people less than allowed by the General Plan.

Also included in this section on development capacity is a map showing the locations of major projects on the island. The acreages shown in Tables III-3 to III-10 indicate the amount of developable residential land in each DP area. The acreage and number of potential housing units reflect capacity only as of December 31, 1987. Since then construction has been completed on some units. These units will be removed from the capacity category and added to the existing housing supply count in the next DPSR.

TABLE III-1

DEVELOPMENT CAPACITY
(DECEMBER 31, 1987)

	Existing Housing ^a (Units)	Developable Land ^a (acres)	Potential New Housing ^a (Units)	<u>Year 2005 Capacity</u>		GP Pop. Distribution DBED M-F 2005 (954,000)		GP Prelim. DBED M-K 2005 ^b (975,100)		Proposed Amendments GP Guideline 2010 (1,063,700)
				<u>Housing Supply</u>	<u>Population</u>					
PUC	166,317	550	22,236	188,553	467,000	453,400 -	501,100	463,200 -	511,900	506,500
Ewa	9,856	2,049	26,306 ^d	36,162 ^d	115,000	85,900 -	95,500	87,800 -	97,500	139,800
CO	33,783	963	8,390 ^e	42,173	143,000	122,200 -	135,500	124,800 -	138,500	167,100
EH	15,161	755	4,384	19,545	58,000	59,200 -	64,900	60,500 -	66,300	58,800
KP	33,359	773	3,535	36,894	121,000	118,400 -	129,800	120,900 -	132,600	121,600
KL	3,933	237	983	4,916	14,000	12,400 -	14,300	12,700 -	14,600	14,200
NS	5,118	376	1,419 ^e	6,537	16,000	15,300 -	17,200	15,600 -	17,200	14,200
W	10,798	885	3,044	13,842	42,000	40,100 -	43,900	41,000 -	44,900	41,500
TOTAL	278,325	6,588 ^f	70,297 ^d	348,622 ^d	976,000	906,800 -	1,002,200 (95% - 105%)	926,500 -	1,023,900 (95% - 105%)	1,063,700 (105%)

^aAs of December 31, 1987.^bObtained by applying current GP population distribution to the preliminary Year 2005 population projection of 975,100 prepared by DBED.^cResident population of 1,063,700 represents 105% (the upper limit allowed by the GP) of the DBED population projection of 1,013,000 for Oahu in the year 2010.^dExcludes 4,871 units on 502 acres for Kapolei Village.^eIncludes proposed military housing.^fExcludes land area in Kakaako and military bases.

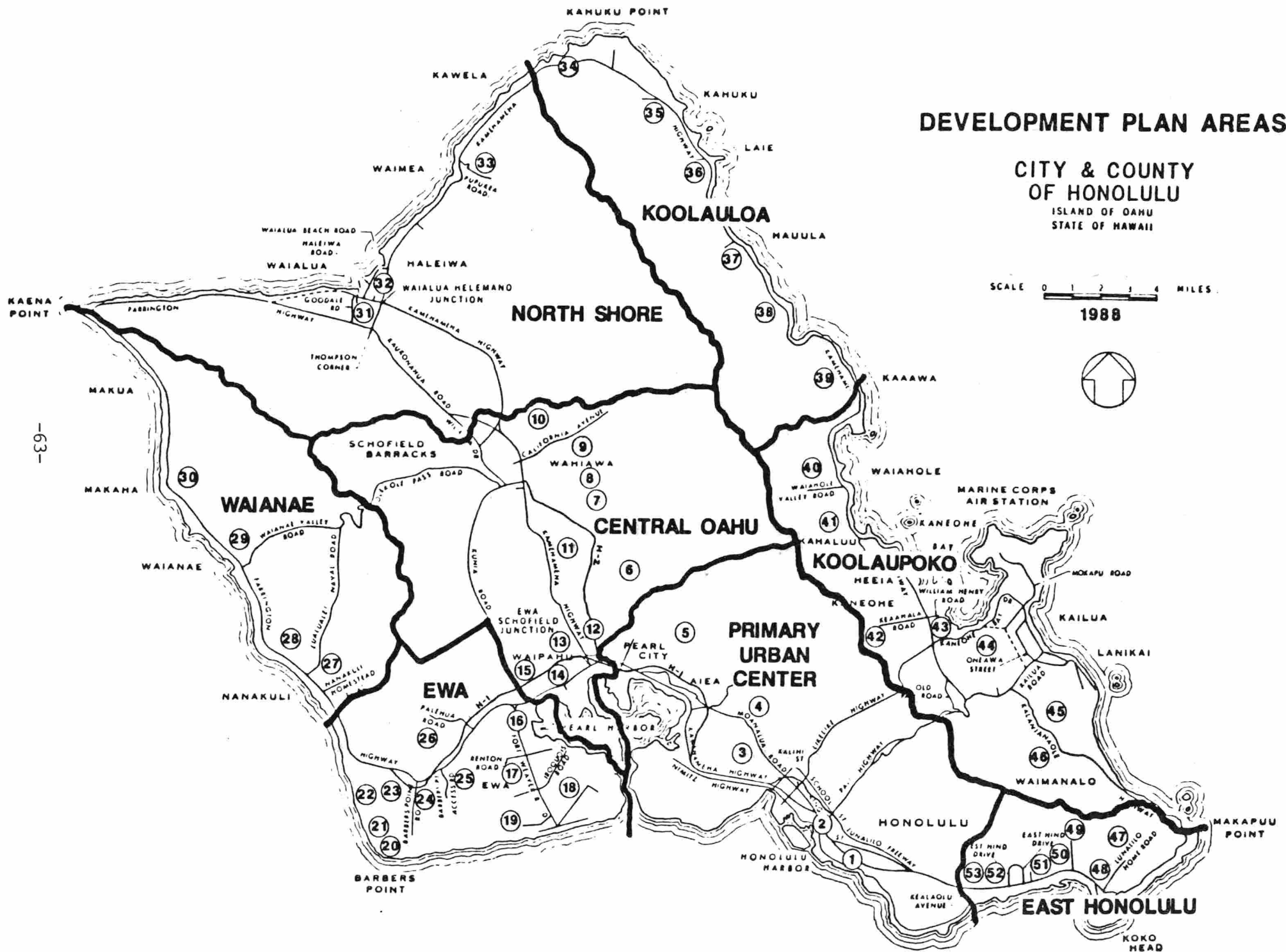


TABLE III-2
KEY TO LOCATION OF MAJOR DEVELOPMENT PROJECTS

1	Kakaako	28	Maili
2	Downtown/Chinatown	29	Waianae
3	Salt Lake HDA	30	Makaha
4	Moanalua MDA	31	Waialua
5	Wailuna	32	Haleiwa
6	Waiawa ^a	33	Pupukea
7	Melemanu	34	Kuilima
8	Mililani Technology Park	35	Kahuku
9	Wahiawa	36	Laie
10	Whitmore	37	Hauula
11	Mililani ^a	38	Punaluu
12	Waipio/Crestview	39	Kaaawa
13	Waikele	40	Waiahole
14	Waipahu	41	Kahaluu
15	Village Park ^a	42	Kaneohe/Ahuimanu
16	West Loch	43	Kaneohe Bay Drive
17	Gentry ^a	44	Kapaa Industrial Park
18	Puuloa Homes ^b	45	Kailua
19	Ewa Marina	46	Waimanalo
20	Campbell Industrial Park	47	Hawaii Kai (General)
21	Barbers Point Harbor/ Camp Malakole	48	Hawaii Kai Marina/ Kaalakei Valley
22	Ko Olina	49	Kuliouou
23	Ko Olina Expansion	50	Aina Haina/Nui Valley
24	Kapolei Town Center	51	Hawaii Loa Ridge
25	Kapolei Village ^c	52	Waialae Iki
26	Makakilo	53	Waialae Nui
27	Nanakuli		

^aExpansions proposed in 1988 DP Annual Amendment Review.

^bAcreage currently designated residential, proposed for use as golf course.

^cState project, DP approval not required.

TABLE III-3
POTENTIAL HOUSING UNITS
PRIMARY URBAN CENTER
(DEVELOPABLE CAPACITY AS OF DECEMBER 31, 1987)

<u>Map Key Number</u>	<u>Major Project Name or Location</u>	<u>DP Developable (Housing) Acreage</u>	<u>Number of Housing Units</u>	<u>DP Amendment Involved</u>	<u>DP Amendment Reference Number</u>
1	Kakaako (Mixed commercial/ residential & industrial) One Waterfront 404 Piikoi Queen Kapiolani MU Other	---	6,303	Partially	82/PUC-80 82/PUC-81 82/PUC-82 84/PUC-22 85/PUC-7 87/PUC-1
2	Downtown/Chinatown (Mixed commercial/ residential) Financial District Block "F" (DHCD) River-Nimitz (DHCD) Maunakea-Smith (DHCD) Pauahi Block "A" (DHCD)	7.3	1,621	Partially	82/PUC-47 82/PUC-48 82/PUC-49 82/PUC-51 82/PUC-52 82/PUC-54 82/PUC-55 82/PUC-56 82/PUC-57
3	Salt Lake HDA Likini-Napunani Other	41.9	1,150	None	
4	Moanalua MDA Ala Kupuna Street Other	15.4	355	None	
5	Wailuna	21.9	181	Pending in 1988 Review for Increment IV	
	Other-locations (see next page for list of locations)	463.2	12,626		

TABLE III-3 (continued)
POTENTIAL HOUSING UNITS
PRIMARY URBAN CENTER
(DEVELOPABLE CAPACITY AS OF DECEMBER 31, 1987)

<u>Map Key Number</u>	<u>Major Project Name or Location</u>	<u>DP Developable (Housing) Acreage</u>	<u>Number of Housing Units</u>	<u>DP Amendment Involved</u>	<u>DP Amendment Reference Number</u>
	Other Locations:				
	Pearl City				
	Pacific Palisades	16.6	107		
	Royal Summit	41.5	181		
	Other	23.2	176		
	Aiea				
	Nahalekeha Condo	8.7	29		
	Pearl Horizon	3.7	99		
	Newtown Meadows	15.8	152		
	Aiea Ridge	3.5	21		
	Other	35.0	213		
	Kalihi Kai	3.6	38		
	Kalihi Uka	22.4	104		
	Kapalama	10.9	285		
	Nuuuanu	32.5	232		
	Pauoa	17.3	106		
	Makiki	21.0	1,058		
	Paawa Annex (DHCD)	4.0	700		
	1015 Wilder	1.3	51		
	Other	15.7	307		
	Manoa	22.0	99		
	Moiliili	6.2	244		
	Waikiki	21.3	589		
	Kapahulu	2.6	21		
	Palolo	32.7	165		
	Kaimuki	16.7	127		
	Kahala	8.8	44		
	Mixed Use Area	40.9	4,864		
	Underutilized Area	56.0	3,672		
	TOTAL	463.2	12,626		

TABLE III-4
POTENTIAL HOUSING UNITS
EWA
(DEVELOPABLE CAPACITY AS OF DECEMBER 31, 1987)

<u>Map Key Number</u>	<u>Major Project Name or Location</u>	<u>DP Developable (Housing) Acreage</u>	<u>Number of Housing Units</u>	<u>DP Amendment Involved</u>	<u>DP Amendment Reference Number</u>
16	West Loch (DHCD)	203	1,500	Yes	86/E-3 87/E-2
17	Gentry (Soda Creek area) ^a	207	3,300	Also pending in 1988 Review	82/E-4
18	Puuloa Homes ^b	49	400	None	
19	Ewa Marina	382	4,791	Yes	82/E-68 84/E-1
20	Campbell Industrial Park	--	--	Only H-Power	86/E-1
21	Barbers Point Harbor/ Camp Malakole	--	--	Yes	82/E-7 84/E-2 85/E-1(IC)
22	Ko Olina	186	5,200	None	
23	Ko Olina Expansion	264	4,300	Yes	85/E-2
24	Kapolei Town Center	155	2,300	Yes	82/E-1 85/E-2A
25	Kapolei Village	502 ^c	4,871 ^c	None	
26	Makakilo	506	3,817	Partially	82/E-2 (Completed 1988)
	Other locations	98	698		
	Ewa Beach (other)				
	Honouliuli				
	Ewa Villages				
	Ewa Elderly (DHCD)				
	Fernandez Lots (DHCD)				
	Other				

^aExpansion proposed in 1988 DP Annual Amendment Review.

^bCurrently designated as residential use, proposed for a golf course.

^cNot included in Table III-1.

TABLE III-5
POTENTIAL HOUSING UNITS
CENTRAL OAHU
(DEVELOPABLE CAPACITY AS OF DECEMBER 31, 1987)

<u>Map Key Number</u>	<u>Major Project Name or Location</u>	<u>DP Developable (Housing) Acreage</u>	<u>Number of Housing Units</u>	<u>DP Amendment Involved</u>	<u>DP Amendment Reference Number</u>
6	Waiawa ^a	62	300	Partially	85/CO-2 86/CO-10
7	Melemanu	89	1,282	Partially	83/CO-19, 19A
8	Mililani Technology Park	N/A	N/A	Yes-Industrial	84/CO-10
9	Wahiawa	36	391	Partially	83/CO-15 87/CO-4(IC) (Reflect existing)
10	Whitmore	50	303	Partially	84/CO-9
11	Mililania ^a	157	1,107	Partially	83/CO-11 (Completed 1988) 83/CO-8 85/CO-3 87/CO-5
12	Waipio/Crestview	35	382	Partially	83/CO-14 84/CO-2
13	Waikele	319	2,700	Yes	84/CO-11
14	Waipahu	77	660	Only for Industrial	83/CO-1
15	Village Park ^a	103	781	Partially	84/CO-6 85/CO-1 86/CO-6(IC)
	Other locations/projects	33	484		
	Horita				
	Schofield Barracks				
	(military housing)				
	Misc. others				

^aWaiawa Ridge, Mililani Mauka, and Village Park Expansion are major development projects being reinitiated or under consideration in the 1988 Development Plan amendment review; these projects are not included in this list.

TABLE III-6
POTENTIAL HOUSING UNITS
EAST HONOLULU
(DEVELOPABLE CAPACITY AS OF DECEMBER 31, 1987)

<u>Map Key Number</u>	<u>Major Project Name or Location</u>	<u>DP Developable (Housing) Acreage</u>	<u>Number of Housing Units</u>	<u>DP Amendment Involved</u>	<u>DP Amendment Reference Number</u>
47	Hawaii Kai (general) Kamehame Ridge Sandy Beach Kamiloiki/Kamilonui	206	883	Down designation of Sandy Beach pending in 1988 Review	
48	Hawaii Kai Marina/ Kaalakei Valley	130	2,035	Partially	83/EH-3 83/EH-5A 83/EH-6 83/EH-7B 83/EH-7C 83/EH-8A 83/EH-10A 83/EH-22
49	Kuliouou	33	140	None	
50	Aina Haina/Nui Valley	37	158	None	
51	Hawaii Loa ridge	139	472	None	
52	Waialae Iki	129	435	None	
53	Waialae Nui	45	91	Partially	85/E-2
	Other locations Portlock Other	37	170		

TABLE III-7
POTENTIAL HOUSING UNITS
KOOLAUPOKO
(DEVELOPABLE CAPACITY AS OF DECEMBER 31, 1987)

<u>Map Key Number</u>	<u>Major Project Name or Location</u>	<u>DP Developable (Housing) Acreage</u>	<u>Number of Housing Units</u>	<u>DP Amendment Involved</u>	<u>DP Amendment Reference Number</u>
40	Waiahole	27	129	Partially (Ag subdivision only)	86/KP-11
41	Kahaluu	285	737	Partially	83/KP-38 83/KP-65
42	Kaneohe/Ahuimanu	217	1,378	Partially	86/KP-2 84/KP-2(IC) 86/KP-9
43	Kaneohe Bay Drive	(Included above)	(Included above)	Partially	83/KP-52 83/KP-53 84/KP-3 84/KP-10
44	Kapaa Industrial Park	N/A	N/A	Partially	83/KP-4B 83/KP-30 83/KP-48 84/KP-37
45	Kailua	197	1,077	Partially	83/KP-68 84/KP-11 84/KP-24 87/KP-2
46	Waimanalo	47	214	None	

TABLE III-8
POTENTIAL HOUSING UNITS
KOOLAULOA
(DEVELOPABLE CAPACITY AS OF DECEMBER 31, 1987)

<u>Map Key Number</u>	<u>Major Project Name or Location</u>	<u>DP Developable (Housing) Acreage</u>	<u>Number of Housing Units</u>	<u>DP Amendment Involved</u>	<u>DP Amendment Reference Number</u>
34	Kuiliima	N/A	N/A	Yes - Resort	84/KL-2
35	Kahuku	68	255	Partially	84/KL-1
36	Laie	35	156	Partially	83/KL-9 83/KL-16B
37	Hauula	81	381	Partially	83/KL-10
38	Punaluu	39	123	Partially	84/KL-9
39	Kaaawa	12	61	None	
	Other locations Kawela Bay	3	7		

TABLE III-9
POTENTIAL HOUSING UNITS
NORTH SHORE
(DEVELOPABLE CAPACITY AS OF DECEMBER 31, 1987)

<u>Map Key Number</u>	<u>Major Project Name or Location</u>	<u>DP Developable (Housing) Acreage</u>	<u>Number of Housing Units</u>	<u>DP Amendment Involved</u>	<u>DP Amendment Reference Number</u>
31	Waialua/Mokuleia	44	471	Partially	84/NS-11
32	Haleiwa	44	161	Partially (Commercial)	86/NS-7
33	Pupukea	283	408	Partially	84/NS-9 83/NS-14
	Other locations				
	Kawailoa	4	39		
	Helemano Military Housing	--	340		

TABLE III-10
POTENTIAL HOUSING UNITS
WAIANAE
(DEVELOPABLE CAPACITY AS OF DECEMBER 31, 1987)

<u>Map Key Number</u>	<u>Major Project Name or Location</u>	<u>DP Developable (Housing) Acreage</u>	<u>Number of Housing Units</u>	<u>DP Amendment Involved</u>	<u>DP Amendment Reference Number</u>
27	Nanakuli	145	696	Partially	84/W-1 84/W-8
28	Maili	100	524	None	
29	Waianae	119	663	Partially	83/W-7 83/W-11
30	Makaha	521	1,161	Partially	84/W-3 84/W-4 87/W-2 87/W-3

SECTION IV
DEVELOPMENT PLAN AREAS: SUMMARY ASSESSMENTS
OF SOCIAL, ECONOMIC, AND ENVIRONMENTAL
CONDITIONS AND ISSUES

A new section describing key social, economic, and environmental conditions of each Development Plan area has been added to the 1988 DPSR. These summaries reflect the area planners' assessments of current major issues in each area.

PACIFIC

OCEAN

DEVELOPMENT PLAN AREAS 1980 CENSUS TRACT

ISLAND OF OAHU
CITY AND COUNTY OF HONOLULU
STATE OF HAWAII



SCALE IN MILES



-75-

7 NORTH SHORE

6 KOOLAULOA

8 WAIANAEA

3 CENTRAL OAHU

2 EWA

1 PRIMARY URBAN CENTER

5 KOOLAUPOKO

4 EAST HONOLULU

PACIFIC

OCEAN

A. PRIMARY URBAN CENTER

AREA DESCRIPTION

The Primary Urban Center (PUC) Development Plan area encompasses the portion of Oahu from Waialae-Kahala to Pearl City. It includes a portion of Neighborhood Board Area 3 (Waialae-Kahala), all of 4 (Kaimuki), 5 (Diamond Head/Kapahulu/St. Louis Heights), 6 (Palolo), 7 (Manoa), 8 (McCully/Moiliili), 9 (Waikiki), 10 (Makiki/Lower Punchbowl/Tantalus), 11 (Ala Moana/Kakaako), 12 (Nuuanu/Punchbowl), 13 (Downtown), 14 (Liliha/Kapalama), 15 (Liliha-Palama), 16 (Kalihi Valley), 17 (No Neighborhood Board established), 18 (Aliamanu/Salt Lake/Foster Village), 19 (No Neighborhood Board established), 20 (Aiea), and a portion of 21 (Pearl City). The PUC is the most densely populated part of Oahu.

In 1985, the estimated population of the Primary Urban Center was approximately 438,100 persons. This accounted for 54% of the population of the Island of Oahu. Between 1980 and 1985, 39% of all population growth and 55% of all housing growth on Oahu were in the Primary Urban Center. The Department of General Planning report, Residential Development Implications of the Development Plans (August 1985) projects that over 24,000 additional housing units will be required in the PUC area by the Year 2005.

The General Plan indicates that the PUC should accommodate between 47.5 and 52.5 percent of the Oahu population by the Year 2005. These percentages translate into a population range of 453,400 to 501,100, based on the current State Department of Planning and Economic Development projection of 954,500 people living on Oahu in the Year 2005.

The Primary Urban Center is the center for government, economic, and cultural activities on Oahu. According to the 1980 Census, nearly 241,000 of the 327,000 civilian workers on Oahu, who were age 16 years or older, worked in the PUC area. This accounted for about 75% of the total civilian employment of the island. In addition, about 17,000 military personnel worked at military installations located in the PUC area. Over the past five years, more than 75% of employment activity on Oahu has continued to be in the Primary Urban Center, as the largest increase in job count has been in hotel and other service related employment and in retail trade.

General Characteristics

The valleys and heights in the mauka portions of the Primary Urban Center are developed predominantly in single-family residential use. Office, retail, service, and government centers are located primarily in the makai areas between Chinatown and Kalakaua Avenue. Major apartment areas include the band of multi-family housing stretching easterly from Kalihi to Kapahulu, and westerly from Salt Lake through the Pearlridge area.

Industrial uses are concentrated in Kakaako, Kalihi-Iwilei, and the Pearl Harbor-Sand Island areas, with lesser concentrations within the Halawa to Pearl City area. Resort activities predominate in Waikiki. Military land uses predominate in the western portion of the Primary Urban Center with numerous military bases, i.e., Pearl Harbor, Hickam Air Force Base, Camp Catlin, and Fort Shafter.

As the PUC is the urban core of Oahu, it is comprised of subareas with different and varied characteristics. In terms of general characteristics, the Downtown area is Oahu's office and governmental center; the Ala Moana area is a major shopping area; and Waikiki is the State's largest resort destination. Kalihi-Palama and Kakaako are areas of major redevelopment opportunities where there exist considerable underutilization of land and the lack of appropriate infrastructure. Areas such as Moiliili-McCully are in the middle stage of transition from single-family to apartment uses; the transition is occurring slowly. Much of the area is still comprised of a mix of single-family housing, duplexes, and older 2 to 4 story apartment buildings. While a few new 3 to 6 story apartment buildings have been constructed in recent years, it is unlikely that extensive change in the character or density of the area will occur in the next decade without a major economic impetus. The Aiea and Pearl City areas are in the final stages of transition to full urban development as a center of population. The regional Pearlridge Shopping Center is currently the second largest shopping center on the island.

Key trends can also be noted regarding social and economic characteristics of these sub-areas. The Downtown, Ala Moana, and Waikiki areas have been characterized by a population with a median age higher than that of the Oahu population in general. According to data from the 1980 Census and the Bureau of Census Neighborhood Statistics Program, the Ala Moana/Kakaako neighborhood area, with a median age of 40, had the highest median age for any area of Oahu. In 1980, 23% of the Oahu population were under the age of 15, while 14% of Downtown population were under age 15, the percentages in Waikiki and Ala Moana/Kakaako were 8% and 9% respectively. Nearly half of all households in all 3 areas were comprised of single person households. Also, all three areas were characterized as having similar median incomes, around \$14,600 in 1980; this was only about 69% of the Oahu median income in 1980. About 70% or more of all households in each of these areas were renters, compared to 50% of all Oahu households. Except for the Downtown area, median rents in 1980 were higher than median rents for Oahu in general. For Oahu in general in 1980, about 14% of all households were comprised of single female heads of household with dependent children under 18 years of age. Downtown reflects the Oahu average, while the percentages are nearly doubled for Waikiki and the Ala Moana/Kakaako areas.

In summary these three subareas are characterized by a population that generally has a lower income, paying a higher proportion of their income for renter housing, and with a higher proportion of elderly and female headed households with dependent children than most other subareas of the PUC. While redevelopment in the Kakaako area and development of tourist and convention center facilities could provide additional amenities and employment opportunities for residents of these areas, they may be negatively impacted with higher housing costs and/or a decreased supply of lower cost housing.

In contrast to the Downtown, Ala Moana and Waikiki areas, Kalihi-Palama, Aiea, and Pearl City were characterized by a younger population. In 1980 the median age for all three areas was around the Oahu median age of 28.1 years. Kalihi-Palama and Pearl City also had higher percentages of children under the age of 15 than the Oahu figure of 23%.

Owner occupants and renters were nearly evenly split among the Oahu population, but households in Aiea and Pearl City reflected higher numbers of owner occupants; they comprised over 76% of the households in Pearl City and over 58% of the households in Aiea. The situation was reversed for Kalihi-Palama, as 75% of the households were renters. Consequently except for the shared factor of a younger population, Kalihi-Palama, an area of redevelopment opportunity, differed from the more newly developed or developing areas of Aiea and Pearl City. At \$25,393 the 1980 median income of Aiea was lower than the \$29,345 median income for Pearl City which in turn was more than double the median income of \$14,280 for Kalihi-Palama. This last subarea also had three times the number of individuals in Aiea and five times the number of individuals in Pearl City below the poverty level.

Median housing values in Kalihi-Palama were also lower than in Aiea and Pearl City, and Kalihi-Palama also had the highest number of persons per household (4.44) of any area in Oahu and a high percentage of large households. Decreasing availability of low cost housing in the Downtown and Kakaako areas as well as other areas of Honolulu may lead to more overcrowding in the Kalihi-Palama area.

The mauka and valley communities such as Wilhemina Rise, St. Louis Heights, Palolo, Manoa, Tantalus, Pauoa, Kalihi Valley, and Moanalua areas are essentially stable communities. In 1980, nearly half of all households in each of these areas had occupied the same housing units for the past 10 years or longer, and in most cases the households in each area were relatively evenly split between renter and owner occupied.

MAJOR ISSUES

The basic problem in the Primary Urban Center is how to provide additional housing, industrial, and commercial capacity within limited urban lands without overloading facility systems or detracting from the livability of existing communities. The problem of affordable housing is being addressed through infilling of vacant parcels, the construction of "ohana" dwellings, the use of marginal urban lands, the provision of additional apartment areas, and the redevelopment of the special policy areas of Kakaako and Downtown Honolulu and the areas along the major transportation corridors where mixed use development is planned. These areas are important business and employment centers.

The Waikiki area has been targeted for considerable public facility improvements in order to positively impact the safety and appearance of the State's primary resort center. The Kalakaua Avenue Safety and Beautification Project has been completed and included removal and resurfacing of existing street surfaces; new curbs to improve drainage; sidewalk removal, resurfacing and widening to minimum of nine feet; elimination of certain crosswalks; installing revamped street lights and other traffic controls; extensive landscaping and new street furniture. Also, the zoo is currently being renovated and the widening of Kuhio Avenue and drainage improvements have been completed. Additional major physical renovations to the area are contemplated over the next 20 years. These improvements will include drainage facilities, improved pedestrian and traffic circulation, and other beautification projects.

In Downtown Honolulu there is a need to increase residential capacity and improve the traffic circulation pattern. Another problem is the shortage of uses which attract people to the area in the evenings and on weekends. The opportunity exists to revitalize Downtown through improved traffic and transportation capabilities, preserving historic buildings, improving the pedestrian environment by providing for open space and pedestrian malls, providing more housing, and redeveloping the waterfront area for mixed use and recreational activities.

The problems in Kakaako involve the inadequacy of streets and public facilities, the incompatibility of existing uses, and the general underutilization of the area. The Hawaii Community Development Authority's (HCDA) plan for Kakaako envisions a more diverse and intensively developed community with commercial, industrial, and residential activities which complement each other. The HCDA plan provides for approximately 25,700 commercial and industrial jobs and 6,600 housing units for about 16,500 persons in the Kakaako area by the Year 2000. While Kakaako is an integral part of the city, local government has no control over planning land use, zoning, urban design or infrastructure development. These powers are vested in the HCDA, whose authority has been expanded to include the Fort Armstrong area and the piers next to Aloha Tower. A harbor and waterfront

redevelopment plan covering all shoreline areas from the Ala Wai Yacht Harbor to Keehi Lagoon is being formulated by various State agencies.

Residents of the stable residential areas, many of which are in the valleys and heights mauka of the Lunalilo Freeway, are primarily concerned with maintaining their single-family residential character. Residents are concerned with the potential encroachment of incompatible nonresidential uses and increased densities from cluster apartment developments or planned developments. While the opportunity is available for some infilling through ohana zoning, development needs to be accomplished without altering the character of stable residential areas.

Areas in transition to higher or more intensive uses include: McCully-Moiliili, Alapai-Sheridan, Makiki-Punchbowl, and the Ala Moana area. The principal concerns are with the height and bulk permitted for new development, possible incompatibility with existing lower density development, and the need to preserve the livability of the areas. Here again, while the misused or underutilized parcels within these areas provide opportunities for increased housing, this needs to be accomplished in a manner that does not negatively impact upon the livability of the area.

Residents in older neighborhoods, such as Chinatown and Kalihi-Palama, are concerned with rehabilitation and/or redevelopment which may radically change their areas. They want improvements, but not at the risk of massive social change. Area and project planning must continue to take these concerns into account.

With the expected intensification and/or redevelopment of certain special policy and mixed use areas, the problem arises as to where to relocate those uses that may be displaced by development. Primarily, the problem involves the relocation of service industries in Kakaako. It is anticipated that these industries would choose to relocate in Kalihi. In order to accommodate increased industrial development in Kalihi, the infrastructure of the area would need to be upgraded.

Of all the potential improvements to the infrastructure in the Primary Urban Center, a viable mass transit proposal would seem to offer the greatest opportunity to increase the integrity, efficiency, and liveability of our urban core. Many additional opportunities for redevelopment would occur with the establishment of a mass transit system. Land uses around station stops would be intensified and areas in close proximity to the stations provide additional redevelopment opportunities. Another opportunity exists in the form of a proposed convention center, which together with mass transit, promises to revitalize the entry to Waikiki. Significant infrastructure improvements may be necessary to accommodate intensification of uses in conjunction with the planned mass transit system and a convention center.

In summary, although there are considerable problems to be met in the PUC, there are opportunities to address these problems. The manner in which these problems are addressed and not ignored would determine, in large part, the course of development for the rest of Oahu. Infrastructure improvements would provide a basis for increasing densities in the PUC which could lessen development pressures elsewhere. Correspondingly, curtailment of development improvements and potential, or decreases in density, would add to development pressures elsewhere.

AREA DESCRIPTION

The Ewa Development Plan (DP) area encompasses the coral plain which stretches from Pearl Harbor around the southwestern portion of the island to Nanakuli. The coral plain meets the moderately steep slopes of the southerly end of the Waianae mountain range, which form Ewa's mauka boundary. The Ewa area contains some of the finest agricultural lands in the State.

The General Plan (GP) objectives and policies give a clear direction for the nature and sequencing of development in Ewa. The Primary Urban Center (PUC) is to be fully developed, and a secondary urban center in the western or West Beach-Makakilo portion of Ewa is to be developed to relieve the pressures on rural and urban-fringe areas. As a result, new public facilities to support urban growth should be oriented toward the primary and the secondary urban centers.

In 1985, the estimated population of Ewa was approximately 37,300 or 4.6% of the islandwide total. The GP indicates that the area should accommodate between 9.0 and 10.0 percent of Oahu's Year 2005 total population. These percentages translate into a population range of 85,900 to 95,500 persons based on the State Department of Planning and Economic Development's current projection of 954,500 Oahu population by the Year 2005.

Overall the population in the Ewa DP area reflects the Oahu population in terms of a nearly even split between owner occupants and renters in the area. The population is younger, with a median age of 23.5 versus an Oahu median age of 28.1 and with a larger percentage of persons under 15 and fewer elderly persons than reside on Oahu in general. Elderly residents in Ewa tend to remain within family households, as only about 8% of the elderly live alone or in non-family households. For Oahu, nearly 20% of elderly live alone or in non-family households. The 1980 census data also indicate that Ewa households have apparent greater family stability--only 9% of households with children under 18 were headed by single women (versus an Oahu percentage of 13.8%); there were fewer one person households (4.9% versus Oahu 17.2%), more households with 6 or more persons, and a larger median household size than Oahu. The census information incorporates data about both military and local families. Larger household size may also be linked to economic factors as Ewa showed nearly double the unemployment rate of Oahu in 1980 and median household income was lower than that of Oahu. On the other hand, the Ewa area also showed a slightly lower percentage of persons under the poverty level than Oahu.

1980 census data indicated that the 1.3% rental vacancy rate in Ewa was lower than the Oahu rate of 7.8%, but a 1986 vacancy survey showed that the vacancy rate for all housing in one section of Ewa--Ewa Beach--is nearly identical with the Oahu vacancy rate of 2.3%. Median housing value and contract rent in Ewa in 1980 were lower than Oahu value and rent.

Therefore, the data indicates that the Ewa area will continue to be a young residential community with a need for an expanded or diversified employment base, especially as the majority of residents do not work currently in the Ewa area. Increased housing development would maintain housing affordability in Ewa, meeting housing needs not only of Oahu residents but future households to be formed in Ewa from the 32% of Ewa residents who were under age 15 in 1980.

The Ewa district is comprised of three major existing residential developments, Makakilo, Ewa Beach and Ewa Villages. Seven new major residential developments are planned. These are Ko Olina (West Beach), Ko Olina (West Beach) Expansion, Kapolei Town Center, Kapolei Village (a joint State/City project), Ewa Gentry (the area adjacent to Ewa Villages), West Loch Estates (a City housing project), and Ewa Marina. Ko Olina includes a new resort destination area and Kapolei Town Center will provide the urban commercial core of the secondary urban center south of Makakilo.

Makakilo is a growing residential community which began over 20 years ago. It consists of market priced single-family and multi-family housing situated on the lower slopes of the Waianae Mountain Range, mauka of the H-1 Freeway. There were 2,500 dwelling units and a population of 8,900 in Makakilo in 1985. The Ewa Development Plan provides for an additional 3,800 housing units and a population increase of 9,800.

Ewa Beach is an older residential community situated between Iroquois Point and the proposed Ewa Marina. In Ewa Beach there were 3,400 housing units and a population of 13,700 in 1985. The Ewa Development Plan permits an additional 500 housing units and a population increase of 1,250.

Ewa Villages is a group of existing plantation villages including Varona, Tenney, Renton, and Fernandez. They are located west of Fort Weaver Road along Renton Road. In 1985, there were 800 housing units and a population of 3,200. The Ewa Development Plan will allow for an additional 300 housing units which could support a population of 750.

The Ko Olina Development (formerly West Beach) situated on the northeastern coast of Ewa, is one of two major secondary resort destination sites planned for Oahu. Ko Olina Resort, with the development of 4,000 visitor units and supporting commercial activities, will contribute 5,100 new jobs to Ewa's economic development. The development will also add 5,200 housing units providing homes for 13,500 persons in Ewa. In addition to the

B. EWA

visitor and resident units, Ko Olina will include a 500 slip marina, an 18-hole golf course, four new sandy beaches, four lagoons, a Hawaiian Cultural Center and two shopping centers (one of which will be patterned after Fisherman's Wharf in San Francisco).

Along the shoreline south of Ko Olina lies the Barbers Point Deep Draft Harbor. This harbor will provide a second commercial port for Oahu and will support the islands' projected future shipping needs and should be fully developed after the turn of the century. The primary basin has been completed and complete development of the harbor and its facilities should take about 10 to 15 years. The Barbers Point Deep Draft Harbor will provide over 2,000 jobs for the Ewa area.

Further south Campbell Industrial Park presently provides about 2,500 jobs. This industrial park contains heavy, medium and light industrial uses including refineries, warehouses and manufacturing companies. When fully developed, the park will provide an additional 4,000 jobs.

North of Campbell Industrial Park adjacent to the northern half of Ko Olina is the proposed Ko Olina (formerly West Beach) Expansion. Specific plans for the site have not been prepared, however, an additional 4,300 housing units supporting a population of 11,200 could be developed.

East of Ko Olina Expansion and south of Makakilo is the proposed Kapolei Town Center. Kapolei is planned as the urban core of the secondary urban center. Proposed uses include Commercial, Industrial, Residential, Low-Density Apartment, Public Facility, and Park. By the year 2005, Kapolei Town Center should provide about 12,000 jobs and 2,300 housing units which would support a population of 6,000.

Kapolei Village located east of Kapolei Town Center is a proposed joint City/State housing development. Although not presently on the Ewa Development Plan, this development proposes 5,000 housing units at market and gap group prices which would support a population of 13,000.

South of Kapolei Village and Kapolei Town Center is the Barbers Point Naval Air Station. This naval aviation facility provides 1,500 civilian jobs and has a population of 2,900 military personnel and dependants.

Along the shoreline east of Barbers Point Naval Air Station is Ewa Marina. This proposed water-oriented development includes a commercial marina, restaurants, a retail shopping center, parks, a school and a golf course. The marina development would provide 4,800 housing units supporting a population of 12,500. In addition, the marina would provide 800 jobs.

Ewa Gentry (formerly Ewa Plantation and Pearl Meadows) is situated northeast of Barbers Point Naval Air Station and south of Ewa Villages. The Ewa Development Plan supports an increase of 3,300 housing units which could provide a population increase of 8,600.

Northeast of Ewa Villages is West Loch Estates, a City housing project which proposes 1,500 housing units for 3,900 persons, a municipal golf course and a regional park. The second phase of residential development was approved in the 1987 Annual Amendment Review. Likewise, the West Loch Regional Park was approved through independent consideration.

The following table summarizes the development of jobs, housing units and population in the Ewa area up to and beyond the year 2005:

<u>Development</u>	<u>New Jobs</u>	<u>New Housing Units</u>	<u>Population</u>
Makakilo		3,800	9,800
Ewa Beach		500	1,250
Ewa Villages		300	750
Ko Olina	5,100	5,200	13,500
Barbers Point Deep Draft Harbor	2,000		
Campbell Industrial Park	4,000		
Ko Olina Expansion		4,300	11,200
Kapolei Town Center	12,500	2,300	6,000
Kapolei Village		5,000	13,000
Ewa Marina	800	4,800	12,500
Ewa Gentry		3,300	8,600
West Loch Estates		1,500	3,900
Others		350	900
TOTAL	24,400	31,350	81,400

Substantial economic and residential growth will create the secondary urban center envisioned by the General Plan. There will be a shift in the emphasis on land use from agriculture, which provided limited employment, to resort, industrial and commercial uses which provide greater employment opportunities. A large portion of the Ewa Plain will, however, continue to be dedicated to agricultural use to support the continued viability of the sugar industry in Ewa and Central Oahu.

MAJOR ISSUES

Agriculture

Sugarcane cultivation is the major agricultural use in Ewa. Approximately 10,000 acres of Amfac's (Oahu Sugar Co.) 14,000 acres of sugar cane fields are located in Ewa. The General Plan (GP), with an objective of maintaining the viability of agriculture on Oahu, has established a policy to provide sufficient agricultural land to encourage the continuation of sugar as a viable industry.

Amfac's Oahu Sugar Company, Ltd., first milled sugar in 1899 and is now the third largest sugar producer in the State. Its lands cover portions of Central Oahu above Pearl Harbor and portions of the Ewa Plain to the west of Pearl Harbor. The Ewa lands were taken over from Ewa Sugar Company in 1970. In 1985, Oahu Sugar Company had 14,263 acres under cultivation, harvested 6,084 acres and produced 90,297 short tons of raw sugar, roughly 9% of Hawaii's sugar production. Oahu Sugar Company directly employs over 500 workers (1987).

About 2,500 acres of Amfac's active sugar cane fields in Ewa are designated for urban use or planned for urban use by City and State housing agencies. This represents 18% of Amfac's 14,200 acres and 25% of its Ewa fields. This acreage will provide the opportunity to develop a Town Center which will form the core of the secondary urban center and allow the City and State to provide housing affordable to families in the gap group income range. Major employment centers to support the increase in population will be established at the Ko Olina Resort, Kapolei Town Center, Campbell Industrial Park and the Barbers Point Deep Draft Harbor.

The report on "Agriculture Preservation versus Urban Development in the Ewa/Central Oahu Area: Recommendation of the Hawaii Chapter of the American Planning Association" prepared by the Public Issues Committee of the Hawaii Chapter in March 1986, discusses Amfac's Survival Plan for Oahu Sugar Company, which is one element of their Master Agricultural Plan, and the long-term outlook for Oahu Sugar Company's continued operation. The Survival Plan calls for reduced labor costs through attrition and gradual reduction in sugarcane acreage to be offset totally or partially through increasing yields. The long-term outlook indicates that Oahu Sugar Company could reduce its sugarcane acreage by 6,000 to 8,000 acres and remain profitable. This reduction would be coupled with a change from the Waipahu mills two processing lines to a single line. Continued operation, however, is contingent upon sufficiently high sugar prices being maintained. Amfac has taken about 4,000 acres of sugarcane land out of production since 1982. In light of this analysis a reduction of 2,500 acres of sugarcane lands over the next 20 to 25 years could be accomplished without adversely affecting Oahu Sugar Company's continued operation.

The "General Plan Growth Management Policies Review Assessment of the Agricultural Industry" prepared by our department in March of 1987 discussed sugar and the agriculture industry on Oahu. It indicated that the sugar industry in the United States suffered when the Sugar Act was abandoned in 1974. Prices were severely depressed as the market was flooded by surplus sugar from other nations. The industry has since battled to bring stability to the market and to oppose those political interests seeking to eliminate controls in favor of free markets.

A combination of political and economic uncertainties, intense competition, and reduced prices has led to some plantations shutting down and others to seek reduced production costs, partly by eliminating crop plantings on marginal land. On Oahu the Kahuku plantation went out of business in the early 70's. On June 29, 1986, the Chief Executive Officer (CEO) of Amfac in an interview noted the company's intent to diversify and phase out sugar, barring changes which would make it attractive in the future.

The sugar industry has seen its role in both the state and the Oahu economy diminish over time. Between 1960 and 1983, its share of total state exports of goods and services declined from 24% to 5.3%. On Oahu, land in sugarcane fell from 35,800 acres in 1963 to 26,400 acres in 1984. If Amfac phases out of sugar and Oahu Sugar Company shuts down as suggested by their CEO, this acreage would be further reduced.

Existing data confirms a substantial surplus of agricultural land relative to current and expected demand for this land, thus fulfilling the GP policy. Far more land is available than can be utilized by the industry to produce food for local consumption, even assuming gains are made in import substitution for select crops. The primary source of growth would appear to lie in exports.

Amfac has begun to explore and develop the potential for diversified agriculture in the Ewa/Central Oahu region as well as on land it owns or leases in the Neighbor Islands. On Oahu, the company is experimenting with sweet corn and alfalfa. It is also considering such crops as cocoa, coffee, and tea. One of the company's stated goals is to avoid being dependent on a single crop. But the search for crops which can be grown with a consistent high quality and be cost competitive in the marketplace is complex and difficult, involving problems of both production and marketing.

Oahu farmers continue to be interested in the development of diversified agriculture in Ewa and Central Oahu. The area is very attractive because of its high quality soils and proximity to markets and transportation facilities. Farmers presently located on less productive land in other locations which are threatened by urbanization may be drawn to the Ewa/Central Oahu region if land were made available.

Traffic

The "General Plan Growth Management Policies Review Transportation Assessment" prepared by our department in March of 1987 discusses traffic on Oahu and particularly in the Leeward to Downtown corridor. Traffic congestion on Oahu is primarily due to an automobile dependent system with the concentration of employment opportunities in the Primary Urban Center and especially in the downtown and Waikiki areas. This requires a commute by many residents living in the suburbs along heavily travelled highways to enter the Primary Urban Center. The Primary Urban Center is also a major attractor for those seeking educational opportunities from private and public secondary up through college education institutions. The Primary Urban Center's combined role as the major work and educational center on Oahu, combined with the fairly narrow corridor access to the Primary Urban Center has led to traffic congestion, especially during the morning hours.

The Leeward to Downtown corridor provides access from Central Oahu, Ewa, and the North Shore. H-2 and Farrington Highways provide access to the H-1 Freeway from the Wahiawa and Waianae areas respectively. H-1 from Ewa to the Downtown area provides the major transportation facility for work trips into the Primary Urban Center with Kamehameha Highway providing a limited feeder system from Waipahu to Aiea and Moanalua Road providing an alternative highway link from Aiea to the Moanalua portion of H-1. In 1980 the volume of weekday trips in this corridor measured at the Kalauao screenline was 330,000 person trips and the morning peak hour volume to capacity (v/c) ratio was 1.07. This means that bumper to bumper, stop and go traffic is the norm for a weekday morning commute to the downtown area.

The HALI 2000 study indicated that available capacity, including committed projects, would be insufficient to meet the peak hour travel requirements of the Leeward Corridor. In the Leeward Corridor, the principal deficiency would occur in the Pearl Harbor East Loch area at the Kalauao screenline where the number of vehicles exceed roadway capacity by 3,631 vehicles during the morning peak hour rush. The morning peak hour demand Ewa of Downtown at the Kapalama Stream screenline was estimated at 16,600 vehicles versus a capacity of 14,310 during the morning peak hour.

The Leeward to Downtown Corridor will likely experience the greatest congestion of any major corridor on Oahu if there is no major shift of employment centers to Ewa and Central Oahu. Additional growth in Central Oahu may result in almost a fifty percent increase in the V/C ratio, well into a situation where bumper to bumper traffic will become a permanent feature of the corridor without major transportation improvements. By 2005, the leeward system would be severely congested if the V/C ratio approaches 1.66. If the additional 29,000 residents are not added to Central Oahu, the V/C ratio drops to 1.29 for 2005.

Thus the effect would be to add further congestion to an already highly congested corridor. By contrast, only the East Honolulu corridor comes anywhere close to this poor service performance level. This scenario does not have to occur, however, if planned improvements to the traffic system and development of the secondary urban center prove successful and commuting habits change to incorporate greater use of carpooling and mass transit.

The City is re-examining the provision of a rapid rail transit system (HART). A rail transit system that would service the Primary Urban Center, accessible by commuters in the Central Oahu-Ewa areas, would help alleviate roadway congestion. Park and ride facilities in both areas are also planned. The State is considering improvements such as a short range program of High Occupancy Vehicle (HOV) lanes, a medium range program of a busway along the OR&L right-of-way, a long range program of a higher capacity mass transit system utilizing buses, and staggered work hours.

Long range solutions to the increasing traffic congestion will be development of a Secondary Urban Center in Ewa and a change in the public's attitude. Creating an employment center in Ewa will help to balance the traffic by reversing some of the traffic flow to the off-peak (Ewa) direction in the morning hours and reducing the number of trips from Ewa or Central Oahu to the Primary Urban Center. This would help to add traffic to the presently underutilized Ewa bound traffic lanes on the H-1 Freeway.

Water

The availability of an adequate water supply is a matter of concern in Ewa. The Ewa DP area has been declared a groundwater control area by the State Board of Land and Natural Resources. Groundwater withdrawals must be carefully allotted because of evidence that use is near sustainable yield and that basal water quality is deteriorating. Water demand, however, is met by an islandwide network and is the same wherever you put the people.

If Oahu Sugar Company does reduce its sugarcane acreage to 8,000 acres, as much as 30 mgd of water may be made available for other uses. This projection is based upon usage of 7,000-8,000 gallons of water per day under the drip irrigation method for each acre in cultivation. Some of the water currently used by Oahu Sugar is brackish, however, and would require treatment before the water is potable.

An Ewa Water Master Plan revised in August 1987 has been prepared for the Ewa Plain Water Development Corporation. The Ewa Plain Water Development Corporation includes West Beach Estates (Ko Olina Resort developers), Tom Gentry (Ewa Plantation developer) and The Estate of James Campbell (for Ewa Marina and Campbell Industrial Park).

The Water Master Plan calls for a dual water system of potable and non-potable water to minimize the withdrawals from the island's limited potable water supply. Non-potable water will be used for irrigation. The Water Master Plan provides for proposed developments presently designated on the Ewa Development Plan (DP) and developments not yet on the Ewa DP which are, however, a part of Campbell Estates Land Use Master Plan.

Wastewater

Wastewater for the Ewa DP area is treated at the Honouliuli Wastewater Treatment Plant (WWTP) and disposed of via the Barbers Point Ocean Outfall. The Honouliuli WWTP also services portions of Central Oahu and the Primary Urban Center.

The existing capacity of the WWTP is 25 MGD and the current flow is averaging 21 MGD. The Barbers Point Ocean Outfall has a design capacity of 112 MGD which represented the projected peak flow for the year 2020. The City Department of Public Works is proposing to expand the WWTP capacity to 38 MGD by 1993 to accommodate proposed development in the Ewa and Central Oahu DP areas. An expansion to 51 MGD is being considered and will be implemented if DP changes or projections warrant the larger capacity.

The costs of wastewater transmission lines will be assumed by the developers whose projects require wastewater service in Ewa and may be passed on with the price of housing.

C. CENTRAL OAHU

AREA DESCRIPTION

Central Oahu consists of the wide fertile plateau between the Waianae and the Koolau mountain ranges. The area includes the towns of Waipahu and Wahiawa, and the residential communities of Crestview, Waipio, Mililani, Waipio Acres, and Melemanu Woodlands. Adjacent to Wahiawa are the Schofield Barracks and Wheeler Air Force Base military reservations. Surrounding these suburban communities are some of the State's finest prime agricultural lands.

Waipahu originated as a sugar plantation town. Its commercial and industrial areas along Farrington Highway serve a primarily residential community with some low and medium density apartments. It is an expanding community where most new development will occur in areas mauka of the H-1 Freeway. Redevelopment is expected along Farrington Highway and the Waipahu Town core.

Mililani is a relatively new low-density, suburban community well separated from neighboring communities by extensive agricultural lands and open space. Some commercial and medium-density apartments are also located in Mililani with additional areas planned for similar developments.

Wahiawa is a stable, low-density community bisected by Kamehameha Highway. It is closely associated with major military facilities and related housing. The Wahiawa Reservoir serves as a major visual focus and sharply defines the limits of Wahiawa. Industrial, commercial, apartment, and public service uses form the center of the community surrounded by single-family residences.

The following data is based on the 1980 U.S. Census and the Bureau of the Census Neighborhood Statistics Program Data Tables for neighborhoods in Honolulu, Hawaii. Key characteristics of the Central Oahu community are given. Reference to Mililani refers to the Mililani/Waipio/Melemanu neighborhood.

Population

53.8% of the Central Oahu population are males, as compared to an all-Oahu male proportion of 51.4%. The military population in Wahiawa no doubt accounts for the higher proportion of males in Central Oahu.

Central Oahu District Population

<u>Year</u>	<u>Central Oahu</u>	<u>% of Oahu</u>	<u>C&C of Honolulu</u>
1980	101,623	13.3	762,534

Distribution of 1980 Resident Population
in Central Oahu

<u>Neighborhood</u>	<u>Population</u>	<u>% Distribution</u>
Waipahu	33,927	33.4
Mililani/Waipio/Melemanu	26,134	25.7
Wahiawa	<u>41,562</u>	<u>49.9</u>
	101,623	100.0

By 1985 the estimated population of Central Oahu was approximately 117,900 or 14.5% of the islandwide total. The General Plan indicates that the area should accommodate a range of 12.8 to 14.2 percent of Oahu's total population in the year 2005.

Median Age

The population of Central Oahu was relatively younger than Oahu. The median age of residents in Waipahu was 25.0 years, Mililani 26.4, and Wahiawa 22.9. In comparison, the Oahu median age was about 28.1 years. The population under the age of 15 was 28.6% in Waipahu, 30.7% in Mililani, 22.9% in Wahiawa, and 23% for Oahu. The population over the age of 65 was 5.7% in Waipahu, 1.8% in Mililani, 4.0% in Wahiawa, and 7.3% for Oahu.

Household Size

The Central Oahu area had a larger household size than Oahu. The estimated number of persons per unit in Central Oahu was 4.03 persons for Waipahu, 3.35 for Mililani, and 3.4 for Wahiawa. In comparison, the average household size for Oahu was 3.15.

In Central Oahu, Waipahu had a higher percentage of households with six or more persons (19.8%) than Mililani (6.9%) and Wahiawa (9.0%). In comparison, 9.6% of Oahu households had six or more persons.

The Central Oahu area and Waipahu in particular had a smaller percentage of one-person households. The percentage of one-person households was 5.9% in Waipahu, 8.1% in Mililani, and 9.8% in Wahiawa. In comparison, 17.2% of Oahu households had one person.

Income and Poverty Status

The median household income levels in Central Oahu, with the exception of the Wahiawa neighborhood, were higher than the Oahu median. The median household incomes were \$23,685 in Waipahu, \$26,338 in Mililani and \$13,343 in Wahiawa. The Oahu median household income was \$21,077.

Waipahu and Wahiawa had a higher incidence of poverty than Oahu, while Mililani had less poverty. The poverty threshold for a four person family was \$7,412 in 1979. There were 4,034 people or 12.1% living below the poverty level in Waipahu, 1,080 people or 4.2% in Mililani, and 3,726 or 10.7% in Wahiawa as compared to 69,435 persons or 9.5% below the poverty level on Oahu.

Waipahu and Mililani had higher percentages of families below the poverty level with female head of households than Oahu. There were 498 families or 55.6% of the 896 families with female head of households in Waipahu below the poverty level and 56.7% of 277 families in Mililani. Wahiawa had a lower percentage of poverty level households headed by females, with 33.2% of 813 families.

Table I
Income and Poverty Status

	<u>Waipahu</u>	<u>Mililani</u>	<u>Wahiawa</u>	<u>Oahu</u>
Median Household Income	\$23,865	\$26,338	\$13,343	\$21,077
<u>Poverty Population:</u>				
Persons	4,034	1,080	3,726	69,435
As % of Area Population	12.1%	4.2%	10.7%	9.5%
Families with Female Head of Household	498	157	270	6,261
As % of Families Below Poverty Level	55.6%	56.7%	33.2%	46.7%
Related Children Under 18	1,952	465	1,774	27,335
As % of Persons Below Poverty Level	48.4%	43.1%	47.6%	39.4%
Persons Over 65	165	0	203	5,249
As % of Elderly Population	9.0%	0	12.6%	7.6%

Education

Of the neighborhoods in Central Oahu, Mililani had the highest percentage of high school graduates. About 63% of persons 25 years and older in Waipahu were high school graduates, 89.1% in Mililani, and 75% in Wahiawa as compared to 75.6% for the island of Oahu.

Mililani also had the highest percentage of people with a college education in Central Oahu. About 11.1% of persons 25 years and older in Waipahu had completed four years or more of college, 30.2% in Mililani, and 12.5% in Wahiawa as compared to 21.7% for Oahu.

Unemployment

The unemployment rate in Waipahu (5.9%) and Wahiawa (8.5%) was higher than Oahu (4.6%) in 1980. The unemployment rate in Mililani (4.1%) was lower than Oahu in 1980.

Housing

Central Oahu had approximately 27,200 year-round housing units which included 26,333 occupied units and 865 vacant units.

Vacancy rates in Central Oahu were much lower than Oahu vacancy rates. The vacancy rate was 3.0% in Waipahu, 2.6% in Mililani, 3.8% in Wahiawa, and 8.2% on Oahu.

Housing indicators were generally more favorable in Mililani than Waipahu and Wahiawa. Waipahu had larger households and had almost double the percentage of overcrowded households than Oahu. Wahiawa renters paid more of their household income for housing as compared to Oahu renters. Wahiawa homeowners paid more of their income toward mortgages for homes that were valued less than homes in Waipahu and Mililani. Mililani median home values were higher in 1980 than the rest of Central Oahu and Oahu.

Table II

Housing

	<u>Waipahu</u>	<u>Mililani</u>	<u>Wahiawa</u>	<u>Oahu</u>
Total Year-Round Housing Units	8,516	8,008	10,674	250,866
Vacant Units	255	207	403	20,652
Occupied Units	8,261	7,801	10,271	230,214
Vacancy Rate	3.0%	2.6%	3.8%	8.2%
Tenure				
Owner Occupied	54.3%	76.6%	26.6%	49.9%
Renter Occupied	45.7%	23.4%	73.4%	50.1%
Selected Conditions				
Lacking Some or All Plumbing	1.2%	0.3%	1.9%	1.5%
1.01 to 1.50 Persons/Room	15.8%	6.5%	7.8%	8.1%
1.51 or More Persons/Room	12.4%	3.0%	4.9%	7.4%
Persons per Household	4.03	3.35	3.40	3.15
Median Contract Rent	\$ 293	\$ 356	\$ 240	\$ 279
As % of Median HH Inc.	14.7%	16.2%	21.6%	15.9%
Median Value Owner Occupied Unit	\$118,700	\$136,300	\$96,700	\$130,400
Median Monthly Mortgage	\$ 489	\$ 630	\$ 428	\$ 494
As % of Median HH Inc.	24.6%	28.7%	38.5%	28.1%

MAJOR ISSUES

Socio-Economic

New employment opportunities are expected to be generated by development of the Secondary Urban Center, the Ko Olina Resort (West Beach), the Deep Draft Harbor, and Campbell Industrial Park in Ewa. This expansion of the employment base from the Primary Urban Center to Ewa will also extend to Central Oahu.

The Mililani Technology Park located on 128 acres of land abutting the Leilehua Golf Course and being developed by Oceanic Properties, Inc., would provide approximately 6,000 jobs. Construction of on-site improvements for Phase I-A consisting of 24 acres and seven lots of saleable land has been completed. Occupancy by the initial tenants is expected by the autumn of 1988. This industrial park is intended for high technology industries including but not limited to electronics and biotechnology. The Oceanic Properties marketing effort is focused on companies involved in aerospace and defense, computer software and services, precision instruments, medical equipment and supplies, biotechnology, sensors, optical systems, and international research and development joint ventures. Development of this economic base can change the future socio-economic structure of Central Oahu.

A review of the historical, socio-economic data suggests several things. Central Oahu with its younger than Oahu median age will provide higher proportions of people who will form new households and enter the first time buyers' market than the Oahu population in general. There will be a continuing need for affordable housing in both rental and homeowner units. A potential labor force is available for entry level jobs in the Mililani Technology Park and Ewa developments. An educated labor force segment exists in Mililani. The ability to draw on a local labor force in combination with new employment opportunities for other Oahu residents could help shift the direction of work travel away from a commute into the Primary Urban Center employment centers. Together the Mililani Technology Park and proposed projects in Ewa are expected to generate nearly 27,000 jobs.

Wahiawa is characterized by a low median income, renters paying more of their income for housing as compared to Oahu, the highest proportion of renter occupied housing (nearly 75%) of the Central Oahu subareas, and lower rental and housing values than other areas of Central Oahu. Affordable housing is being planned in Ewa, and development and redevelopment opportunities for affordable housing in Central Oahu could benefit these Wahiawa residents.

Land Use

The most serious land use impact associated with growth management policies in the Central Oahu DP area would be the potential urbanization of land currently in or recently withdrawn from productive agricultural use. Major developments have already been approved for Village Park and Waikele. Other major developments have been proposed by private developers to expand Village Park and Mililani Town and to develop Waiawa Ridge, and by the City to develop the Waiola Estates subdivision. These new proposals could affect more than 3,300 acres of agricultural land, and provide more than 17,500 dwelling units for over 50,000 people. In the past year, the State Land Use Commission has approved changes from agricultural to urban district for the Mililani Mauka, Village Park Expansion, and Waiawa Ridge projects.

Central Oahu has been the subject of General Plan amendment applications in 1986 and 1987 to include Central Oahu as well as Ewa in the secondary growth area. Although these amendment applications were not adopted, several landowners and/or developers remain interested in expanding existing developments or undertaking new developments in Central Oahu.

The need for agricultural land to maintain viable sugar and pineapple operations in Central Oahu has been reduced due in part to improved production practices.

Recent trends of the sugar and pineapple industries have been to seek cultivable areas on lands with productive soils and low irrigation costs. The lands in lower elevations with plentiful sunshine, low rainfall, and readily available and inexpensive irrigation water are considered more desirable. The implication is that major developments on higher elevation agricultural lands in Central Oahu may have less adverse impact on the agricultural economy of these industries than those located in the Waipahu and Ewa areas.

Arguments for the conversion of potentially productive agricultural lands to urban uses are based in part on the small local market for agricultural goods, the large supply of agricultural land statewide, the declining prospects of the sugar industry, and the relocation of pineapple production to sugar lands. The Department of Agriculture's highest priority for retaining agricultural land is the area below Waiahole Ditch and on the Waianae side of Waikele Gulch because it has large, uninterrupted contiguous fields and inexpensive irrigation water available from the Waiahole Ditch.

Transportation

Recent growth in residential development in Central Oahu and Ewa has created regional traffic congestion in the Moanalua and Pearl Ridge traffic corridors leading to the employment centers located in the Primary Urban Center. A related problem is traffic congestion at the Waiawa Interchange connecting H-1 and H-2 and Kamehameha Highway at the Kipapa corridor.

The Department of Transportation plans to encourage a shift in travel mode by the general public toward car pool and buses. For this shift to occur, physical improvements such as special facilities for car pools and buses and park-and-ride facilities must be provided. Planning and design of the following regional highway improvements are already underway:

1. The widening of H-1 from Waiawa Interchange to Halawa Interchange to provide HOV lanes.
2. The widening of H-1 from the Palailai Interchange to Kunia Interchange, to provide HOV lanes from Campbell Industrial Park to Waiawa Interchange.
3. Two new interchanges, the Waipio Interchange on H-2 at Mililani Cemetery Road and the Paiwa Interchange (by Amfac, developers of Waikele) on H-1 at Paiwa Street.
4. The widening of Kamehameha Highway, by Amfac, fronting the Waikele development opposite Crestview and Seaview.

A proposal for a rapid transit terminal site near the Waiawa Interchange was adopted in the 1987 Annual Amendment Review. Commute by bus or rapid transit to the Primary Urban Center job centers by western Oahu residents could relieve traffic congestion in the Leeward to Downtown traffic corridor and, at the same time, increase the potential pressure for future development in Central Oahu.

Responding to the need to improve traffic and mobility, Honolulu is planning a modern, grade separated rapid transit system. There exists an opportunity to link the major activity centers along this linear city with an efficient rapid transit system. Numerous developments in transit technology, financing, and implementation techniques make it possible to design a system that will be environmentally acceptable, and cost less to operate than the existing bus system while providing dramatically improved travel times and convenience. It is anticipated that rapid transit trip times of 20 minutes from Waipahu to Downtown will attract many commuters off the congested Leeward to Downtown highways.

Sewage

Sewage effluent from developments in Central Oahu and Ewa flow to the Honouliuli Wastewater Treatment Plant. The current capacity of and flows to the Honouliuli Wastewater Treatment Plant were 25 mgd and 21 mgd, respectively. The Department of Public Works plans to expand the capacity to 38 mgd by the end of 1993.

Water Service

Water from the Pearl Harbor Ground Water Control Area serve the water needs of Central Oahu. Based on current population projections, Oahu's groundwater resources will be fully committed by 1995-2005 assuming no diversion of agricultural waters to urban uses. If these groundwaters are allocated to urban usages, then the full commitment of groundwaters on Oahu can be extended to the decade 2020-2030. The time horizon when Oahu will have to develop desalinization processes will be extended.

Summary Listing of Future Developments

Below is a list of projects already approved or being proposed in Central Oahu.

<u>Development</u>	<u>Acreage</u>	<u>New Jobs</u>	<u>New Housing Units</u>	<u>Population</u>
<u>Approved</u>				
Village Park Expansion	55	--	450	1,300
Waikale	577	2,000	2,700	8,100
Mililani Town (makai)	56	--	300	900
Mililani Technology Park	128	6,000	--	--
Subtotal	816	8,000	3,450	10,300
<u>Being Considered</u>				
Village Park Expansion	615	710	2,963	8,700
Mililani Mauka	1,200	132	6,640	20,850
Waiawa	1,395	3,400	7,900	18,873
Waiola Estates	269	--	1,500	5,850
Subtotal	3,479	4,242	19,003	54,273
Grand Total	4,295	12,242	22,453	64,573

D. EAST HONOLULU

AREA DESCRIPTION

The East Honolulu Development Plan (DP) area encompasses the portion of Oahu from the eastern boundary of Waialae-Kahala to Makapuu Point. It consists essentially of a string of residential communities clustered along the area's single transportation corridor, Kalaniana'ole Highway. Prominent natural features are the ocean, the backdrop provided by the Koolau mountain range, Koko Head Crater, Maunalua Bay, and Koko Head/Hanauma Bay.

Residential development is extensive throughout East Honolulu's coastal lowlands and the valleys between the mountain ridges. Development has also occurred along some ridges. The largest area of residential development is Hawaii Kai, which has been incrementally developed since 1961 on 6,000 acres of land surrounding Kuapa Pond. This community includes a mixture of single-family detached residences, townhouses, low-rise apartments, and high-rise apartments. Recreational amenities include marinas, parks, and two golf courses.

The major nonresidential land use elements of East Honolulu are the neighborhood shopping centers at Aina Haina, Niu, Hawaii Kai, and Koko Marina. While more commercial facilities are planned, at present East Honolulu is an area of predominantly medium to high quality residences and townhouses with a light sprinkling of low-density and medium-density apartments in Hawaii Kai and Kuliouou.

In 1980 the population in the East Honolulu DP area was about 43,000. The Department of General Planning (DGP) estimates that in 1985 there were approximately 47,000 residents in East Honolulu. This was 5.8 percent of Oahu's total population.

Under the General Plan (GP), East Honolulu is planned to contain 6.2% to 6.8% of Oahu's Year 2005 islandwide population. Utilizing the Department of Planning and Economic Development's Year 2005 population projection of 954,500 people, the population for East Honolulu should range between 59,200 and 64,900 people in Year 2005.

Growth between 1980 and 1990 will occur at a slower rate than population growth in the previous decade. Rapid growth in the Hawaii Kai community in the 1970's was the primary factor accounting for the previous higher growth rate in East Honolulu. Between 1970 and 1980 the population in the Hawaii Kai community doubled from 12,572 to 25,603 residents, as 63% of the housing stock in the Hawaii Kai area was constructed during that time period. By contrast only about 15% of the housing in the remainder of the East Honolulu DP area was constructed after 1970.

Two neighborhood board areas (Hawaii Kai and Kuliouou-Kalani Iki) and a portion of a third area (Waialae-Kahala) are included within the East Honolulu DP area. The following profile of socio-economic characteristics in these areas are based on the 1980 U.S. Census and the Bureau of the Census Neighborhood Statistics Program.

Median Age

Based on median age, the population of East Honolulu in 1980 was older than the Oahu population in general. The median age of the Oahu population was 28.1 compared to median ages of 31.5 in Hawaii Kai, 37.1 in Kuliouou-Kalani Iki, and 36.8 in Waialae-Kahala. Both the Kuliouou-Kalani Iki and the entire Waialae-Kahala areas showed a higher percentage of elderly persons than reflected in the Oahu population in general. In comparison the Hawaii Kai community, with about 60% of the East Honolulu DP area population, had a much lower percentage of elderly persons and a higher percentage of persons under the age of 15.

Household Characteristics

Family households predominate in East Honolulu. In 1980, over 23% of the households on Oahu were characterized as non-family households. Less than 12% of the households in Hawaii Kai or Kuliouou-Kalani Iki were non-family households. Also East Honolulu had a lower percentage of female headed households than found on Oahu in general.

The average household size for Oahu in 1980 was 3.15 persons per household. Hawaii Kai had a slightly higher average of about 3.3 persons per household while Kuliouou-Kalani Iki had a slightly smaller average at 3.08 persons per household. Waialae-Kahala had an even smaller average household size.

Income Characteristics

The median income in all three neighborhood board areas of East Honolulu was substantially higher than the median income in 1979 for the Oahu population in general. The median household income for Oahu was \$21,077; it was \$34,928 in Hawaii Kai, \$36,986 in Kuliouou-Kalani Iki, and \$40,030 for the entire Waialae-Kahala area.

East Honolulu also had a smaller proportion of residents with incomes below the poverty level. Almost 10% of the Oahu population had incomes below poverty levels in 1979; only about 3.6% of the residents in the East Honolulu DP area had incomes below the poverty level.

The East Honolulu DP area also had the lowest unemployment rate when compared to the other DP areas. Hawaii Kai and Waialae-Kahala, with 2.4% and 2.3% unemployment rates respectively, had the lowest unemployment rates in 1980 among all neighborhood board areas. The 1980 unemployment rate for Oahu was 4.6%.

Education

Residents in the East Honolulu DP area also had a significantly higher level of educational achievement when compared to the Oahu population in general. About 75% of Oahu residents were high school graduates as compared to 85% in Kuliouou-Kalani Iki and 91% in Hawaii Kai and Waialae-Kahala. Additionally over a third of East Honolulu residents over age 25 had 4 or more years of college education as compared to 22% for Oahu.

Housing Characteristics

In 1980 Oahu households were nearly evenly split between owner occupants (49.9%) and renters (50.1%). In contrast East Honolulu had a much higher rate of homeownership. Over 80% of the housing units in East Honolulu were owner-occupied. Median value of owner-occupied units and median contract rent in 1980 were also significantly higher in East Honolulu when compared to Oahu. The median contract rent on Oahu was \$279 per month; in East Honolulu it was higher, ranging from \$400 in Kuliouou-Kalani Iki to \$500 in Hawaii Kai and Waialae-Kahala. The median value in 1980 of an owner-occupied unit on Oahu was \$130,400; the median value was \$170,500 in Hawaii Kai, \$180,000 in Kuliouou-Kalani Iki, and \$200,000 in Waialae-Kahala. The 1990 statistics are expected to reflect an overall increase in housing values in East Honolulu, although Japanese investment in the past 2 years have focused only on selected neighborhoods in East Honolulu, such as Waialae Iki, Koko Kai/Portlock, and Hawaii Loa Ridge.

In summary, the East Honolulu DP area was characterized by having more family households, fewer elderly residents, a lower percentage of renters, more affluent and better educated population, and a higher median age than shown by the 1980 statistics for Oahu in general. Proposed developments in the East Honolulu area will increase the number of housing units and population primarily in the Hawaii Kai community. The proposed 2,400 dwelling units in the Hawaii Kai Marina development will result in an increase of about 5,300 residents between 1988 and 1995. Little alteration in the socio-economic composition of the area, as depicted by 1980 census data, is expected. The key impact of the new development will be on traffic conditions.

MAJOR ISSUES

Major issues in East Honolulu relate to traffic, land use, and public facilities.

Public Facilities

Kalanianaʻole Highway is the only arterial highway linking East Honolulu to the Primary Urban Center. Due to congestion during the morning and evening peak traffic hours, the highway is the major infrastructure deficiency in East Honolulu. Residents of East Honolulu are concerned about the impact of traffic congestion on their travel time to and from the Primary Urban Center. Increased travel time during minor highway resurfacing and other repair work has focused the residents' attention on continued residential development in East Honolulu, with little improvement in the carrying capacity of the highway.

A major highway widening program will be implemented by the State Department of Transportation in the near future. The State had originally proposed a four mile improvement project, costing \$93 million, from the end of the H-1 Freeway at Ainakoa Avenue to Keahole Street in Hawaii Kai. Necessary City and County permits for the ewa half of the project have not yet been approved. The portion of the project from East Hind Drive to Keahole Street is scheduled to begin construction in January 1989. This \$35 million, three-year construction project would entail the conversion of the existing median strip to two reversible carpool lanes to go the way of traffic during peak hours.

During the review and public hearing processes related to the entire highway widening program, East Honolulu residents appeared to be divided in their support of the project. Hawaii Kai residents appeared to favor at least portions of the project, while some Aiea/Hahaione area residents opposed the project. Concerns centered on the environmental and aesthetic impacts of the improvements, the length of time required for construction and the resulting inconvenience, and some design features.

Other features of a transportation program to accommodate increased travel needs and encourage alternative modes of transportation by East Honolulu residents are also currently being implemented. A newly constructed park-and-ride facility in Hawaii Kai was opened for public use in August 1988. The 5-acre facility has 140 parking spaces. Also proposed is the construction of a transportation dock at the City's Maunaloa Bay Beach Park for a ferry service from Hawaii Kai to Downtown Honolulu. The 1988 State Legislature has approved construction funds for this facility.

In regard to public facilities, other deficiencies identified in recent years have been improvements needed at the sewage treatment plant and the need for a police substation. Improvements to the sewage treatment plant were completed in 1987. A Public Facilities Map amendment to include a police substation next to the park-and-ride facility has been processed and funding for the substation has been proposed in the 1989 Fiscal Year Capital Improvement Program.

Land Use

As measured by building permits issued, the dwelling unit count in East Honolulu increased by approximately 1,200 units between 1980 and 1986. Since 1981 approximately 1,000 single-family and multi-family housing units have been constructed.

Congestion on Kalaniana'ole Highway and market conditions have been factors in decreased housing development activity in East Honolulu after 1980. The other major factor in the slow down in overall development has been the City and County's East Honolulu Development Plan. Although the proposed 1980 Development Plan was vetoed by the Mayor after the City Council passed it in 1981, down designations of land use from Residential to Preservation were adopted in the East Honolulu Development Plan of May 1983. Land designated for single- and multi-family residential use decreased from about 4,100 acres in 1980 to approximately 3,400 acres in 1986, a 17% drop.

The 1983 Development Plan directed the thrust of new development in East Honolulu to the Hawaii Kai Town Center and Kuapa Lagoon with a deemphasis on area growth in eastern Hawaii Kai. Queen's Beach was redesignated for Park and Preservation in 1983; 1984 amendments included a change of the Park designation at Queen's Beach to Preservation.

Due to inadequate traffic capacity on Kalaniana'ole Highway, current and future development in East Honolulu is linked to traffic improvements. Construction of the first phase of 1,780 new housing units in the Hawaii Kai Marina area is in progress. Kaiser Development Company obtained rezoning approval based on its agreement to implement transportation improvement measures.

A major current land use issue in East Honolulu involves a proposed cluster subdivision, with 171 dwelling units, which is located across the road from Sandy Beach; 57 of the proposed units would be within the Special Management Area. An initiative petition drive to downzone the land at the Golf Course 5 and 6 Subdivision was conducted, but a July 1988 Circuit Court preliminary ruling barred the City from placing the initiative question on the primary or general election ballots. This ruling is currently being appealed. The City Council has also initiated a Development Plan amendment to down designate the area from Residential to Preservation use.

Concerns stated have included the desire to maintain the visual integrity of the area, the coastal view, and traffic congestion.

The Chief Planning Officer has initiated an amendment to the East Honolulu Development Plan Public Facilities Map to add a site determined park symbol, within 6 years, at the site of the proposed Golf Course 5 and 6 subdivision. This is a necessary first step for the budgeting of City funds for condemnation and park development.

Locational conflict related to the siting of nonprincipal uses in residential neighborhoods also were a focus of concern in East Honolulu. Opposition surfaced regarding the operation of a child care center and development of a group living facility for mentally retarded persons in Hawaii Kai residential areas. Issues in Kuliouou-Kalani Iki residential areas involved a request to develop an adult day care facility for persons suffering from serious neurological injuries and a possible bed and breakfast operation.

RECOMMENDATIONS

Of the eight Development Plan areas, East Honolulu has probably experienced the highest areawide increases in housing prices.

There is a need to expand the availability of housing at the lower end of the price range. Other than the proposed group living facility and the approximately 200 unit Kauhale Aupuni O'Kuliouou project of the early 1980's, there has been no other publicly assisted housing projects in East Honolulu.

The City also should encourage the establishment of one or two combined commercial and light industrial areas keyed to the unique assets of East Honolulu. Previously considered but now tabled is the development of a film studio. Expanded commercial and industrial development would provide increased local employment opportunities and relieve traffic congestion.

E. KOOLAUPOKO

AREA DESCRIPTION

The Koolaupoko Development Plan (DP) area encompasses the area from Waimanalo to Kualoa. It is unique among the eight DP areas because it contains a mixture of the urban-fringe or suburban communities--Kaneohe and Kailua--and rural regions typified by Waimanalo and Kahaluu.

Functionally, Koolaupoko serves as a residential suburb of the Primary Urban Center predominantly consisting of single-family detached residences with some apartment and townhouse developments in Kailua and Kaneohe--the most urbanized communities. Regional commercial developments are located in Kailua and Kaneohe with small neighborhood shopping areas in Waimanalo, Enchanted Lakes, Temple Valley and Kahaluu.

Kailua and Kaneohe are made up of several distinct residential neighborhoods, which are separated by such natural features as ridges, streams, lakes, and marsh lands. There is strong sentiment to protect these open space areas from further development.

The rural areas of Kahaluu and Waimanalo are characterized by an agricultural lifestyle. Residential densities are very low, and industrial and commercial developments are minimal. The agricultural products consist of fruits, vegetables, taro, and flowers.

In 1980, the population of the Koolaupoko DP area was 109,373. Between 1970 and 1980, Koolaupoko had experienced an 18.6% rate of growth; this compared to a 20.9% growth rate for Oahu.

In 1985, the estimated population for Koolaupoko was approximately 115,700 or 14.2 percent of the islandwide total. The General Plan (GP) indicates that the area should accommodate a range of 12.4 to 13.6 percent of Oahu's Year 2005 total population. These percentages translate into a population range of 118,400 to 129,800 persons based on the current State Department of Planning and Economic Development's Year 2005 population of 954,500 people on Oahu.

Koolaupoko is comprised of four Neighborhood Board areas. The following data, based on the 1980 U.S. Census and the Bureau of the Census Neighborhood Statistics Program, show important demographic, socio-economic, and housing characteristics in the four sub-areas.

Population

While there are four active neighborhood boards, five areas were delineated in the Neighborhood Statistics Program. These were the following:

<u>Area</u>	<u>1980 Population</u>
Kahaluu	11,782
Kaneohe	35,553
Kailua	41,291
Waimanalo	9,132
Mokapu	11,615

A very large number of persons in Mokapu are military personnel and their dependents at Kaneohe Marine Corps Air Station. For functional purposes Mokapu is considered part of the Kailua Neighborhood Board. For that reason, no additional information on Mokapu will be included.

Age Characteristics

In 1980, the median age for Oahu as a whole was 28.1 years. Kahaluu's median age was slightly lower at 27.6 years, and Kaneohe's median age was slightly greater at 28.6 years. The median age for Kailua was even higher at 29.5 years, while Waimanalo's median age was substantially lower at 24.6 years. All areas had a lower proportion of persons over the age of 65 than shown by the data for the island as a whole (7.3%). Kaneohe at 24% and Kailua at 23.9% closely resembled Oahu (23%) in the proportion of children in the population under age 15. Kahaluu at 29.6% and Waimanalo at 30.3% had much higher proportions of children under age 15; this corresponded with the lower median ages in both areas.

Household Characteristics

In 1980, average household size for Oahu was 3.15 persons. All 4 areas in Koolaupoko showed a higher average household size. Waimanalo with 3.95 persons per household showed the largest household size, followed by Kaneohe at 3.43 persons, Kahaluu at 3.31 persons, and Kailua at 3.21 persons per household. While average household sizes in all areas were higher than for Oahu, no overcrowding is suggested for any area but Waimanalo. In 1980 about 7.3% of all Oahu housing units had 1.51 or more persons per room. Waimanalo, with 13.6%, had nearly double the Oahu percentage. The other 3 areas were below 6%. While the other 3 areas also had slightly higher percentages of large households (6 or more persons) than found on Oahu in general, the proportion of large households in Waimanalo was nearly 3 times that of Oahu (25.8% versus 9.6%). In comparison to Oahu, all 4 areas had a much lower percentage of non-family households (single person household or unrelated individuals living together). Approximately 76% of Oahu households are

composed of family members; in Koolaupoko the proportion of family households ranged from 86% in Kahaluu and Kailua to nearly 90% in Kaneohe and Waimanalo.

Income Characteristics

Median household income for Oahu in 1979 was \$21,077. Except for Waimanalo, median incomes were higher in Koolaupoko. Median incomes were \$24,984 for Kahaluu, \$28,652 for Kaneohe, and \$28,546 for Kailua. Median income for Waimanalo was much lower at \$19,407. Correspondingly Kaneohe and Kailua had much lower percentages of persons under poverty income level than Oahu. Kahaluu at 8.9% was only slightly lower than the Oahu percentage of 9.5% while Waimanalo was much higher with 14% of the residents under the poverty income level in 1979. Kahaluu (at 13.9%) and Waimanalo (at 17.6%) also had higher percentages than Oahu (at 12.7%) in regard to female headed households. Percentages in Kaneohe and Kailua were lower than Oahu's 12.7%.

Employment Characteristics

Reflecting the more rural and agricultural character of the Kahaluu and Waimanalo areas in 1980, higher percentages of the labor force in these 2 areas were engaged in farming, forestry and fishing occupations when compared to Oahu in general. 1.8% of the Oahu labor force were in these occupations in 1980, and 2.5% of the Kahaluu and 9.3% of the Waimanalo labor forces were in farming, forestry and fishing occupations. Waimanalo also had the highest percentage of the labor force in service occupations; 23% compared to 17.6% for Oahu. Percentages for the other 3 areas were lower than the Oahu figure. In 1980 the Oahu unemployment rate was 4.6%; the rate was higher in Waimanalo (5.8%), slightly lower in Kaneohe (4.4%) and Kailua (4.1%), and even lower in Kahaluu (3.3%). Approximately 40% of the Koolaupoko area labor force worked on the Windward side in 1980 while the remainder worked in Honolulu.

Educational Level

Among Oahu adults over the age of 25 in 1980, 75.6% were high school graduates and 21.6% had attended 4 or more years of college. Waimanalo had much lower percentages of high school graduates (59.2%) and those attending college for 4 or more years (9.4%). Educational attainment level was higher in the other 3 areas than for Oahu, both in percentages of high school graduates and the college educated.

Housing Characteristics

The 4 neighborhood areas in Koolaupoko all had a higher proportion of owner-occupied housing units in 1980 than reflected by the data for Oahu in general. 49.9% of Oahu housing units were owner-occupied. This compared to 66.2% for Kahaluu, 72% for Kailua, 72.3% for Kailua, and 63.5% for

Waimanalo. The highest proportion of newer housing stock was found in Kahaluu. Nearly half of all housing units there were constructed after 1970. About a third of all Oahu housing was constructed after 1970. The median value of an owner-occupied unit on Oahu was \$130,400 in 1980. Property values in Kahaluu at \$139,100 and Kailua at \$138,200 were higher than Oahu. Median value at \$122,500 was lower in Kaneohe and substantially lower in Waimanalo, where the median value of \$68,500 was about half that of Oahu. Median contract rents in 1980 were also lowest in Waimanalo. The Oahu rent was \$279 per month. The rent was \$379 in Kailua, \$349 in Kaneohe, \$325 in Kahaluu, and \$232 in Waimanalo. House values and rents are presently much higher than they were in 1980. The 1990 statistics are expected to show sharp increases. As of mid-year 1987, housing values in 5 single-family residential neighborhoods in Koolaupoko had appreciated more than 10% over housing values of 12 months earlier.

MAJOR ISSUES

Major issues in Koolaupoko relate to infrastructure deficiencies and new public services, transportation, water resources, Kawainui Marsh, and preservation of agricultural lands.

New development in Koolaupoko has been at a slow steady pace since 1980. The major growth retardant has been and continues to be traffic congestion on the two major traffic corridors. Residents of Koolaupoko also appear to want urbanization to stop at Kahaluu where agricultural lands will be preserved.

Public Facilities

The major public facility inadequacy in Koolaupoko is traffic congestion on the Pali and Likelike Highways during the morning and evening rush hours. Residents of Koolaupoko voiced their concerns about traffic congestion with general support for the proposed new H-3 route over the Koolaus. Completion of the new highway and improved traffic conditions to Honolulu may generate an increased demand for housing development and accompanying public facilities in Koolaupoko however.

Other deficiencies in the public facilities serving Koolaupoko include:

1. Need to provide more sewers to replace cesspools. Sewers are needed in many unsewered neighborhoods of Koolaupoko; cesspools often overflow and are generally unsanitary and odoriferous.
2. Need for Senior Citizens Center in Kailua. Debate continues regarding where the center should be located.

3. Need to consolidate the sewage treatment for the Kahaluu-Kailua area at the Kailua Wastewater Treatment Plant. There is agreement with the Department of Public Works plans to consolidate sewage treatment for the Kaneohe-Kailua area at the Kailua Wastewater Treatment Plant.

Another public facilities issue is related to development of new water wells and the distribution and adequacy of water resources. Koolaupoko farmers have wanted to insure that the Board of Water Supply's (BWS) drilling of more water wells will not adversely impact the existing flows in some of Koolaupoko's streams - particularly in the Waihole and Waikane area, where adequate water supplies are essential to continuing agricultural use of the area. The Department of Land and Natural Resources (DLNR) has established temporary streamflow standards at 100% for the Windward Oahu area; BWS abides by these standards. When a new well near a stream is put in now, BWS contracts with the U.S. Geological Service to ensure that DLNR standards are met. Water resources, however, must also be used for urban purposes, including export to Leeward areas. These resources account for an important part of the total islandwide water supply available to the year 2005.

Environmental Concerns

Continuing concerns have been the protection and preservation of Kawaiinui Marsh and the waters of Kaneohe Bay. Kokokahi Pier at Kaneohe Bay had the highest fecal coliform density of Oahu's public beaches monitored by the Department of Health in 1985 and 1986. Additionally, siltation and other forms of pollution are present at the bay. Concern about extensive and excessive growth of vegetation in Kawaiinui Marsh has become more salient since the 1987 New Year's Eve floods. Issues there include flood control and lessening the impacts from development and effluent discharge from sewage treatment plants. The City is assisting the State in preserving Kawaiinui Marsh by discouraging potentially damaging development upon peripheral lands.

Development and Preservation of Agricultural Lands

City opposition to the construction of the H-3 Freeway during the 1980's has influenced the amount, direction and velocity of development in Koolaupoko. Completion of H-3 should intensify the pressures for urban development in Kaneohe, Ahuimanu, Kahaluu, and Waiahole.

This is particularly true of the lands adjacent to Kahekili Highway. During the preparation of the Koolaupoko DP proposed in 1980, some lands with slopes exceeding 20 percent were down designated from Residential use to Preservation; this reduced the urban development potential of Koolaupoko. Overall, vacant, developable land, designated single- or multi-family residential by the DP, decreased from about 1,200 acres in 1980

to about 500 acres in 1986. As measured by building permits issued, the dwelling unit count in Koolaupoko increased by approximately 3,500 units during this time period. About half this number, or approximately 1,800 single-family and multi-family housing units, have been constructed since 1981. Approximately 850 of the above total housing units were developed as affordable housing, for low/moderate and gap groups, by City or State agencies.

Development since 1980 has mainly resulted in filling "pockets" of open space with residences throughout Koolaupoko; the exception is the Enchanted Lakes area where there have been some larger developments by Lone Star. Part of this filling-in type of residential development has resulted from the City's Ohana Housing program initiated in 1982. In Koolaupoko, the largest ohana housing area stretches from Kaneohe Marine Corps Air Station to Bellows Air Force Station, thereby covering most of Kailua. There is a second much smaller area of ohana housing that is located in Waimanalo and a third at Ahuimanu.

Housing development projects on the horizon include the following:

<u>Project</u>	<u>Proposed No. of Units</u>	<u>Time Period</u>
The Bluffs (Kailua)	200 (S.F.)	1988-1990
Castle Hills (Kaneohe)	83 (S.F.)	1988-1989
Ahuimanu Hills (Kaneohe)	190 (S.F.)	1988-1991
Blackfield (Kailua)	29 (S.F.)	mid-1988
HFDC Project (Waimanalo)	50 (S.F.)	1989-1990

A proposed site for another HFDC affordable housing project of 400 units has been designated as part of the location of a new veteran's cemetery.

The intention of the Koolaupoko DP is that the communities of Kailua and Kaneohe will remain stable, predominantly single-family suburban "bedroom communities" and that Waimanalo will remain a rural community having extensive acreage devoted to diversified agricultural pursuits surrounding a small low-density residential area. The communities of Kahaluu, Waiahole-Waikane and Kualoa are to remain relatively lightly settled, rural areas with the exception of limited areas in Heeia Kea and Ahuimanu Valley, where residential development of a low-density suburban character already exists.

Consequently one of the priorities in the Koolaupoko DP is the improvement of water resources both for urban purposes and to support development of agricultural and aquacultural uses in appropriate areas which include, but are not limited to, Waimanalo and Kahaluu-Kualoa. State programs are presently being implemented which would support continuation of agricultural activities. Waiahole Agricultural Park, a State

(HFDC) project, will provide for 79 residential and 46 agricultural lots. Department of Hawaiian Home Lands programs will also encourage agricultural activities.

RECOMMENDATIONS

Recommendations for proposed changes to City policies, programs and land use regulations relate to development pressures associated with the completion of the H-3 freeway, agricultural policies, recreational opportunities, and environmentally sensitive areas.

Any acceleration in the State Department of Transportation's program to construct H-3 could result in more and faster housing development in Koolaupoko - particularly adjacent to Kahekili Highway and probably also in Kahaluu. City consideration must be given in advance to the urbanization pressures that the completion of H-3 will bring for more and faster development in Kahaluu, Waiahole and Waimanalo. Older built-up areas, i.e., Kaneohe and Kailua, may also be subject to redevelopment.

The City should consider these urbanization pressures either with plans to provide public facilities to accommodate this development or a well-planned approach to resist this pressure for more intensive urban development. The question boils down to reevaluation of the current urban area boundaries and the General Plan's Year 2005 population guideline; Koolaupoko's population capacity is now pushing the upper limits of this population guideline.

The City will also need to reevaluate its current agricultural policy for Koolaupoko in anticipation of urbanization pressures in Kahaluu, Waimanalo and Waiahole. With planning perhaps additional areas of Waimanalo and Kahaluu can be preserved for truck farming, flowers, fruits, livestock, aquaculture and other modern agricultural industries, following the model of Waiahole. Support of agricultural uses in Kahaluu and Waimanalo by City planning agencies can help retain the rural nature of these communities.

Bellows Air Force Station offers a great potential for beach recreational activities for Oahu's residents and visitors. Perhaps the City or the State could acquire and maintain a portion of Bellows Beach as a public beach park. The Air Force currently permits civilian use of portions of Bellows Beach, but facilities and maintenance are marginal, presumably due to limited Air Force funds for this purpose.

Environmentally-sensitive areas such as Kawainui Marsh, Heeia Marsh and Kaneohe Bay can be preserved for their unique environmental qualities by coordination of City, State and Federal plans.

F. KOOLAULOA

AREA DESCRIPTION

The Development Plan (DP) area of Koolauloa makes up the northern half of Oahu's windward coast. It is basically a narrow stretch of coastland bordered by mountains and occasional mountain valleys. It is the least developed, least populous, and second most mountainous of all eight DP areas.

Koolauloa is distinctly rural and isolated. There are no dominant land uses such as military bases, industrial districts, or sugar or pineapple plantations. Only one of the six coastal towns has much more than three thousand people. Farm occupations in diversified agriculture employ 6% of the work force, which is three times the islandwide average.

Unlike other DP areas, only a minority of the work force commutes in or out. The largest body of workers is in Laie, where the Polynesian Cultural Center and Brigham Young University Hawaii (BYUH) together employ fifteen hundred people, many of them students. Five hundred people work at the Turtle Bay Hilton in Kuilima, at the edge of the Koolauloa DP area. Of these, 49% live in Koolauloa, 48% in the North Shore DP area, and 3% elsewhere.

Koolauloa's largest level area is the Kahuku Plain, running roughly from Laie to Kuilima. Much of it was a sugar plantation until the mill closed in 1971. Today there are still over two thousand acres of the plain being considered for other uses. The mill failure originally affected growth in Koolauloa, but Laie's boom and the Kuilima resort have since revived the area's economy. The town of Kahuku however lost its position as Koolauloa's population and employment center, and is now only the third largest town behind Laie (4,600) and Hauula (3,000).

The total population of the Koolauloa DP area was only 11,700 in 1985, or 1.4% of the island's total. This share was the same in 1980, with Koolauloa's 6.5% growth rate nearly matching Oahu's for this period. This is in accordance with the General Plan (GP) which calls for Koolauloa to keep its same 1.4% share in the future, at least up to the year 2005.

The 1980 Census helps illustrate the rural character of Koolauloa's population. The median income was less than three-fourths of the islandwide median, and people were twice as likely to be under the poverty level. Also twice as likely were households with six or more persons and households having more than one person per room. A third of the population was children under 15 years of age, and half of them were in families below the poverty level. Caucasians, Hawaiians, and Samoans were the largest ethnic groups.

The following table gives more details from the 1980 Census:

	<u>Koolauloa</u>	<u>Oahu</u>
Median Income	\$17,005	\$23,554
Under Poverty Level	19.5%	9.5%
Median Age	22.5	28.1
6+ Person Household	21.7%	9.7%
Mean Household Size	3.26	3.15
Female Head of Household	10.2%	12.7%
Non-Family Household	19.8%	22.7%
Unemployment Rate	3.7%	4.6%

FUTURE PROSPECTS

Changes are likely, at least for the Kuilima, Laie, and Kahuku areas. In Kuilima, a major resort project has been approved, involving a fivefold increase over the existing Turtle Bay Hilton and Kuilima Estates condominiums. It envisions an eventual 4,000 resort units and 4,000 jobs once the project is completed in about 20 years. This would make Kuilima the largest private employer anywhere on either the Windward side or the North Shore. The resort is in the final design phase.

In Laie, the need to further expand the Polynesian Cultural Center and the BYUH campus has resulted in a Master Plan being prepared for growth of the entire community. Both facilities are anticipated to nearly double in land area over the next 20 years.

In Kahuku a 280-unit Hicks Homes subdivision has allowed the town to regain half of its lost population, going from 1,000 in 1980 to 2,000 today. The non-profit Kahuku Village Association, with funding from the City, is now in the midst of redeveloping the old mill camp areas. About 200 new and 100 rebuilt homes will result from the project residents' individual efforts. Also, Campbell Estate is proposing a 15-acre industrial park as a support facility for the expanding Kuilima Resort.

The Kahuku Plain may see much more use as well. The expanded Kuilima resort will take up about 400 acres. A 1,000-acre aquaculture park has been proposed, building on the success of small-scale shrimp farms near Kahuku. The State is also laying out a 550-acre agricultural park near Kahuku in order to promote diversified agriculture and related employment. Likely crops are corn, papaya, watermelon, guava, and passion fruit, with the last two already being processed locally. The two farm efforts support the General Plan policies of keeping Koolauloa rural and of maintaining agricultural lands along the Windward coast for various types of diversified agriculture.

The remainder of Koolauloa faces less change. Public sentiment in Hauula, Punaluu, and Kaaawa is against substantial change to these rural communities. A 200 unit rental housing project in Hauula is the only significant development proposed for this stretch of the Windward coast. The only other proposed projects are new public parks and eventually sewer systems for these communities. Even the sewer systems have been questioned, due to costs and the additional development that might be encouraged.

MAJOR ISSUES

Preserving a rural atmosphere is the overriding concern of Koolauloa residents. Obvious urban influences and developments at urban densities are resisted strongly. Yet local needs temper this view. Residents living between Kaaawa and Hauula seem to want little or no growth, while the other communities will accept new low-density developments in exchange for gains in employment and housing. The Kahuku area, with its greater unemployment, has been more supportive of new development than other areas. The following sections discuss these concerns more specifically.

Development

For some residents Koolauloa's growing reliance on tourism has raised the spectre of Waikiki-style development in this area. Yet the plan for Kuilima envisions a Hawaiian-style country resort with the lowest density on Oahu. The Polynesian Cultural Center and a nearby hotel will remain almost entirely as one- and two-story buildings as they expand. Greater height is proposed for a movie theatre at the Polynesian Cultural Center, but in fact, Punaluu's two existing mid-rise condominiums will stay as the most "urban" or highest density land uses in the whole DP area.

The real concern seems to be future population pressures brought about by greatly increased employment opportunities in Kuilima and Laie. The General Plan is calling for only one-seventh more Koolauloa residents in the next 20 years or so (going from 11,700 to 13,400 by 2005), but the 20-year plans for Kuilima and Laie may result in up to half again as many jobs in the DP area (going from 5,000 to about 7,500). This disparity means that not only will more family members have regular jobs but more "outsiders" will be working in the area. Some of these newcomers may well seek to move in, producing population pressures above and beyond the General Plan's limit on future residential development. So, area residents who are unhappy about any population growth may fear that the Kuilima project will produce an undesirable influx of visitors and residents despite its obvious economic benefits.

Employment

As compared to Oahu, there are a higher proportion of Koolauloa workers in service, professional and agricultural jobs because of the predominance of employment in tourism, in diversified agriculture, and at the BYUH campus. However, most other job categories and the 1987 average unemployment rates are comparable for Koolauloa and Oahu. The 1987 unemployment figures are 3.5% for Oahu, 3.8% for Koolauloa, 2.8% for the Laie census tract, and 5.3% for the Kahuku census tract.

Nevertheless, median family income is less than three-fourths of the Oahu average. There are three reasons for this. First, labor force participation is lower (40% versus 48% islandwide) due to large numbers of children and BYUH students. Second, many jobs are only part-time or seasonal, or are in otherwise low-paying occupations. Third, unlike most other DP areas, Koolauloa is too far away to serve as a bedroom community for more highly paid Honolulu workers.

In anticipation of expanding employment opportunities in this area, the Kuilima Development Company and the major landowner, Campbell Estate, have jointly created the North Shore Career Training Corporation. This organization and others are preparing local residents to take advantage of the many new jobs that may open up in Kuilima, Laie, and Kahuku.

Affordable Housing

Most housing in Koolauloa is rentals. Census data from 1980 listed 2,687 housing units occupied year round, two-thirds of them rentals. In contrast, the proportion of rentals was only one-third in Oahu's suburbs and only one-half for the islandwide average and the Primary Urban Center. Vacation rentals and second homes make up about 10% of Koolauloa's total housing supply, helping the area have a high vacancy rate. However, housing rehabilitation work in Kahuku's Mill Camp area may lower the vacancy rate by reducing the number of marginally habitable homes.

As with other rural areas, large families abound, often with extended families living under one roof. Koolauloa has the highest rate of crowding and of large families, and the lowest median household income of any DP area.

The obvious need for affordable housing is presently being addressed by the 287-unit publicly assisted housing project in Kahuku. Two hundred more units of rental housing are also being considered in Hauula, and another hundred may be built in Kahuku as employee housing for the expanded Kuilima Resort. Efforts are also under way in Laie to convert leasehold housing to fee simple ownership. Thus, the area's concern over housing problems is starting to be addressed. Further gains will hinge on income and job improvements as much as on a continuing commitment to affordable housing.

Infrastructure

Koolauloa is a rural area without typical urban infrastructure. A two-lane highway is the only main road, and many side roads are substandard. Residents complain about weekend traffic congestion and about slow-moving tour buses, even under current development levels.

Drainage is often rudimentary, characteristic of rural areas. Older neighborhoods have no storm drains, and stream flooding is an occasional hazard. The Army Corps of Engineers is presently working on a stream channelization project in the Laie area. Work also needs to be done on the storm drain system in the newer section of Laie. Beach sand covering up storm drain outflows tends to be another problem.

Most of Koolauloa is served by cesspools. There have been occasional problems due to high water tables and plugging of cesspool walls. The City's long range plan is to eliminate cesspools and have sewers islandwide, most likely through improvement districts.

Presently, the only wastewater treatment plants serve the Kuilima resort area, the Kahuku Hospital and vicinity, and the Polynesian Cultural Center and eastern Laie. All three plants are operating near capacity and will have to be either expanded or replaced.

Even water distribution is not a single interconnected system. The Board of Water Supply (BWS) system stops short of Laie and does not resume until Kuilima. Laie has its own private water system, and Kahuku has a special BWS system that serves only Kahuku town. Water mains in a few areas are near capacity, and will need to be upgraded.

Water Resources

This rainier part of the island has unused groundwater resources, due in part to a plantation closure and to a sparsity of development. However, there is community opposition to a BWS proposal to export much of this resource to other parts of the island. Residents fear that such action will lower the water level in the area's streams, and thus hurt both this scenic resource and small farmers who take their water from streams. Many residents are also opposed to the very idea of exporting their water to more urban parts of the island.

The State has now adopted interim stream flow standards in order to address these issues. These standards will force future water exports to be cut back if the pumping causes water levels in the area's streams to drop below certain levels. Permanent stream flow standards are also in the works.

POLICY IMPLICATIONS

The Development Plan (DP) for Koolauloa shows locations where future growth is planned over approximately the next 20 years. Except for the Kuilima Resort expansion, most of the development will be minor additions to existing residential areas. In fact, almost 1,000 more homes are expected to be built on the 237 acres of new and unused residential land shown on the DP, and a fifth of this is in a single project in Hauula that may not materialize due to environmental problems.

These 1,000 units of development capacity put Koolauloa close to the General Plan's maximum for year 2005, which is about 4,900 units for 14,300 people, or a 1.5% share of Oahu's year 2005 population. Without the Hauula project and three scattered parcels which may remain parks, growth allowed by the DP map comes closer to Koolauloa's minimum population share of 1.3%.

However, two growth factors may complicate this picture. First, the Laie Master Plan is not yet on the Development Plan map, and that Master Plan appears to call for a net gain of about 350 homes and about 100 apartment units. This is more housing than can be allowed under the General Plan's population cap. Thus, in order for the Laie Master Plan to be approved, either development capacity must be taken away from other parcels in Koolauloa or the General Plan itself must be changed.

Second, the Kuilima expansion as authorized in the Development Plan includes only resort and ancillary uses but may house some new residents as well. If the two new hotel developments are successful, as many as 2,000 resort condominiums may be built at Kuilima. These would be marketed not only as second homes and investments but also as primary residences. Given that half of the existing condominiums at Kuilima are actually residences, hundreds of new residents could end up being housed at Kuilima when the resort project is fully built out. If this increase in residents results in the population of Koolauloa exceeding the GP guidelines, then further review of the General Plan and of the Development Plan's residential development allotments will be needed.

Both Kuilima and Laie, then, may require future Development Plan policy decisions. Kuilima's new owner has indicated that the two new hotels on Kawela Bay are certain to be built, but the viability of the rest of the project is not yet determined. Thus the size, timing, layout, and possible population effects of the Kuilima expansion are still in question.

Laie's expansion plans are even further from fruition. When the Master Plan is finalized and the needed Development Plan change is requested, the GP's population growth guidelines and the need for more apartment construction in Koolauloa will have to be carefully scrutinized. Laie residents want only enough residential growth to support the continued expansion of BYUH and the Polynesian

Cultural Center, but in order to allow this, the more slowly growing stretch between Hauula and Kaaawa may have to lose some of its large share of Koolauloa's residential development capacity.

Although these implications of the Koolauloa Development Plan are quite significant in terms of directing future growth in designated areas, little growth has occurred to date, and thus the Development Plan has had little physical impact so far. The DP was only adopted in 1983, and most construction in Koolauloa was completed by the end of 1983. The only major construction since then has been infrastructure for the Kahuku housing project and for the Kahuku Agricultural Park, both of which leave actual home construction to individual lot holders. Other post-1984 construction has occurred on scattered house lots, at a small subdivision in Punaluu, and on some shrimp farms near Kahuku. Of all of these, only the Punaluu subdivision was really dependent on the adoption of the Development Plan in 1983.

MAJOR DEVELOPMENTS IN KOOLAULOA

PROJECT: Prudential's Kuulima Resort Expansion (recently sold to a Japanese development company)

USE: Resort, Commercial, Park, and Preservation

ACREAGE: 460+ acres

NO. AND TYPE OF UNITS: 1,450 new hotel rooms; 2,063 new resort condominium units

PERMANENT JOBS: 3,555 new jobs in Koolauloa and North Shore

START AND COMPLETION: Start delayed, but only building permits still needed. Completion within 25 years of start.

PROJECT: Latter Day Saints Church's Laie Master Plan

USE: Public Facility, Commercial, Residential, Park, Low-Density Apartment, Industrial

ACREAGE: About 230 acres

NO. AND TYPE OF UNITS: About 100 low-density apartments; about 350 single-family homes

PERMANENT JOBS: Future expansions of the BYUH campus and the Polynesian Cultural Center should result in about 500 more jobs

START AND COMPLETION: Unknown. Both the Development Plan and the zoning need to be changed before construction can begin.

PROJECT: DHCD/Kahuku Village Association's Kahuku Village Conversion

USE: Residential (no change from original DP)

ACREAGE: 54.2 acres

NO. AND TYPE OF UNITS: 173 new single-family homes plus 114 rehabilitated or replaced homes

PERMANENT JOBS: None

START AND COMPLETION: Infrastructure completed for half of project by City under CDBG; rest of infrastructure to be started soon and be finished in a year or two. No timetable for homes; to be arranged for individually by lot owners.

PROJECT: ELC Foundation's Autistic School and Housing in Hauula

USE: Residential

ACREAGE: 18.5 acres

NO. AND TYPE OF UNITS: About 200 rental apartment units

PERMANENT JOBS: Small number to run the school

START AND COMPLETION: Indefinitely delayed at the zoning level due to environmental concerns.

PROJECT: State's Kahuku Agricultural Park

USE: 24 agricultural lots

ACREAGE: 550 acres

START AND COMPLETION: Construction of infrastructure in progress; lots being leased.

G. NORTH SHORE

AREA DESCRIPTION

With the rugged Waianae and Koolau ranges for a backdrop, a foreground of some of Hawaii's more attractive beaches and most dramatic surf, and its open spaces enhanced by the green of sugarcane and pineapple fields, the North Shore is surely among the loveliest rural areas left in America.

The North Shore Development Plan (DP) area includes all of the shoreline from Waialeale Gulch to Kaena Point, and all of the area inland to just north of Wahiawa. The area involves a well-defined drainage basin through which substantial streams flow into Kaiaka, Waialua and Waimea Bays. The primary land use is agriculture--sugarcane and pineapple, pasture and truck farms--42,357 acres or 55% of the land in the DP area is designated agriculture as of 1985. Three fourths of the area's population live in the small country towns of Haleiwa and Waialua. These are the major employment centers of the area; the town of Haleiwa also provides commercial support for the area while retaining a historical atmosphere. Most of the remaining population live in single family homes along the shoreline northeast to Kawaihoa and west in Mokuleia.

It appears that the resident population of the North Shore may be declining, but an estimated 1985 "defacto" population (14,200) involves an 8.7% increase or about 1,140 people more than the 1980 population (13,061). By comparison the Oahu population increased by 6.1% between 1980 and 1985. Not all of the 14,200 population are year-round residents. It appears that in recent years, increasing numbers of Oahu residents are maintaining second or weekend homes in the North Shore area. Additionally, the winter surf at the North Shore, which often reaches heights of 20 to 25 feet, attracts surfers from around the world, adding to the numbers of seasonal residents.

Both the General Plan (GP) and the North Shore Development Plan (DP) Special Provisions direct that the agricultural, open space character of this district is to be retained. The relevant GP policies are to manage physical growth and development such that an undesirable spreading of development is prevented; to maintain sufficient agricultural land to encourage the continuation of sugar and pineapple as viable industries; and to encourage truck farming, flower growing, aquaculture, livestock production and other types of diversified agriculture.

Growth along the North Shore, as well as in the other rural areas, is to be limited so that its relative share of the islandwide population remains essentially the same as it was in 1980. The GP population distribution guidelines indicate a range of 1.6 to 1.8 percent of Oahu's year 2005 total population. Based on the current State Department of Planning and Economic Development projection of 954,500 people on Oahu, the North Shore's population should be in the range of 15,300 to 17,200 by the year 2005.

A brief social and economic profile of North Shore residents, based on 1980 Census data showed the following characteristics. Overall, the population of the North Shore area closely mirrored the Oahu general population in terms of social characteristics such as the proportion of different racial or ethnic groups and age distribution (with the North Shore having slightly larger percentages in the groups under 5 and over age 65). Household size was larger for Oahu (3.15 persons per household) than the North Shore (2.84 persons per household). The North Shore had a slightly higher percentage of unrelated persons residing in a household (26.9%) than Oahu (23.2%) but had a lower percentage of 1 person households than Oahu. A slightly higher percentage (79%) of North Shore residents over the age of 65 lived within family households than Oahu elderly did (75%). The 1979 median household income was lower in the North Shore area; median household income in the North Shore was \$17,873 compared to the Oahu median of \$21,077. There was also a higher percentage of North Shore households below 80% of median income, 47% as compared to Oahu's 39%. Unemployment in 1980 was slightly higher in the North Shore than Oahu, and the percentage of persons under the poverty level was also higher for the North Shore than for Oahu in general. Also 15.6% of North Shore families with children under 18 were headed by women, compared to a slightly lower level of 13.8% for Oahu families.

In relation to housing characteristics, the 1980 median contract rent of \$278 in the North Shore was nearly identical to the Oahu median contract rent. Median value of owner occupied housing was substantially lower in the North Shore (\$91,100) compared to Oahu (\$130,400), but value in the North Shore was higher compared to other rural areas of Oahu: Koolauloa (\$82,800), Waimanalo (\$68,500) and the Waianae area (\$77,000). Rental vacancy rates at 18% in 1980 were higher in the North Shore than any other neighborhood board area of Oahu except Waikiki, reflecting seasonal usage of some North Shore housing. Yet the percentage of households occupying the same housing unit for 10 or more years was nearly the same for the North Shore (26.9%) as Oahu (26.8%).

MAJOR ISSUES

Major issues in the North Shore DP area include managing development to retain sufficient agricultural land and the rural country atmosphere, yet maintaining employment opportunities for residents. Wastewater management, potable water supplies and traffic are the principal facilities problems of the North Shore's infrastructure.

Agriculture and Future Development

The decision of management to continue the operations of the Waialua Sugar Company for at least two more years is a major social, economic and environmental factor to be considered in assessing the current situation in the North Shore area. The Waialua Sugar Company is the major employer in the North Shore area, and closure of the sugar operation would be an economic blow (460 jobs) to the region, with potential negative social and environmental effects related to diminished personal income, unemployment, and renewed pressures for development.

In 1980 the North Shore had an unemployment rate of 5.7% as 315 people out of a civilian labor force of about 5,500 were unemployed. As of October 1987, there were fewer than 200 unemployed workers in the North Shore labor force.

Waialua Sugar Company, a subsidiary of Castle and Cooke, Inc., has utilized a total of about 12,400 acres for the production of sugarcane. Castle and Cooke through another subsidiary, the Dole Company, is also involved in pineapple cultivation on Oahu. As the market, profitability and value of the pineapple crop have increased in recent years and optimistic forecasts for the fresh fruit market continues, land especially suitable for both sugar and pineapple may be diverted for pineapple cultivation. Over the next 5 years, some lands currently farmed by the Waialua Plantation are scheduled to be gradually phased out of sugar and replanted in pineapple for the first time. Pineapple is a more labor intensive crop than sugar.

There have been no major development projects approved for the North Shore in recent years (Turtle Bay/Kuilima project impacts the North Shore but is located in Koolauloa). The Mokuleia Land Company's proposal to develop a thousand acres of prime agricultural land into a secondary resort area (2,100 hotel and 1,200 condominium units, 3,100 square feet of commercial floor area, and 36-hole golf course) and a 700-unit residential area with 69,000 square feet of commercial floor area has been withdrawn, but may be proposed again in 1989. The social impact of such a development on this exceptionally beautiful rural-recreational area would be both negative and positive. Section 10 of the DP Common Provisions lists five categories of social impact factors to be used in evaluating any proposed development (demographic, economic, housing, public service, and environmental). A development of the magnitude proposed for Mokuleia would have a negative impact on two of the five categories--environmental and demographic, a positive impact on the economic and housing factors, and a mixed impact on the public service factors (a decrease in traffic congestion could occur as local employment opportunities increase, but traffic volume could also increase due to increased tourism related traffic).

Social, environmental and economic conditions in the North Shore area appear to favor a conservative approach to planning for future development. With the pending development of the Kuilima Resort and possible development of Mokuleia, considerable growth pressure may be exerted on the North Shore urban centers of Waialua and Haleiwa. Demand for growth in the commercial sector may come from resort-related support industries and increased demand for residential development may also occur as some workers wish to live closer to their place of employment. Development of land not important to agriculture, especially parcels in and around the urban communities of Haleiwa and Waialua that do not negatively affect agricultural operations, would be appropriate.

Employment

The uncertain future of the Waialua Sugar Company's 460 employees is the most obvious motive for encouraging major development in the area. However, in-depth analysis of the North Shore's economic and employment situation requires considering the Kuilima Resort development (3,500 jobs projected) and the Mililani Technology Park project which would provide about 6,000 jobs. It is probable that the North Shore's economic future will be stabilized whether or not amendments are made to the General Plan and the Development Plan in favor of a Mokuleia resort.

Wastewater Management

Ninety percent of the area's residential, commercial and industrial units are serviced by cesspools of which 20% are defective and require pumping on a frequent basis, 60% on a less frequent basis, and 100% remove only a small percentage of the pollutants contained in domestic sewage (figures from the 1980 Honolulu Water Quality Plan). The remaining pollutants are carried by groundwater into the shoreline waters of the ocean. The Department of Public Works (DPW) is presently proposing the Haleiwa-Waialua Wastewater Treatment Plant to replace all cesspools in the Haleiwa-Waialua-Mokuleia area, the Paalaa Sewage Treatment Plant and 17 small, private sewage treatment plants. Construction is scheduled to begin within 6 years.

Potable Water Supplies

Proposed Board of Water Supply (BWS) projects located within the North Shore area include six wells to provide potable water for domestic use, and reservoir facilities to increase the overall storage capacity to provide a more reliable supply of water and enhance the capability of the water system to meet peak demands or emergencies. The BWS six year Capital Improvement Program (1985-1991) includes the development of three of these wells (Mokuleia I, Kawaihoa and Waimea).

Transportation

Facilities for ground transportation in the North Shore area include a highway system, smaller collectors, and local roadways. The area from Waihee Gulch to Waialua and south to Wahiawa is serviced primarily by Kamehameha Highway. Farrington Highway services the Mokuleia area, from Waialua west to about one mile past Camp Erdman. The municipal bus system (MTL) operates a shuttle bus between Haleiwa and Waialua, and two-way around the island service every half-hour from 6 a.m. to 10 p.m. Dillingham Air Field west of Mokuleia is operated as a general aviation field for small private planes.

The a.m. and p.m. rush-hour traffic problems are aggravated by the fact that over half of the North Shore labor force commute out of the area to their place of employment. The North Shore Development Plan Public Facilities Map indicates plans for the improvement of Haleiwa Road, Waialua Road, Crozier Drive (to Mokuleia), and Kamehameha Highway (through Haleiwa); these are all designated future (beyond 6 years). Only the proposed Haleiwa Bypass (from Weed Junction to Haleiwa Beach Park) is designated within 6 years.

Kamehameha and Farrington Highways are every resident's link with the rest of Oahu and so increased traffic congestion is a major source of concern for everyone.

Field investigations (Kuilima Resort Expansion EIS) show that traffic congestion in the North Shore area occurs largely because of bottleneck locations. Haleiwa and Waimea Bay are the primary bottleneck locations. The narrow Anahulu Bridge in Haleiwa and motorists turning left into Waimea Bay Beach Park and into Waimea Valley Road queue traffic in both directions. The proposed Haleiwa Bypass will remedy the situation at Haleiwa. However, there are no specific plans for resolving the Waimea Bay problems or for similar though lesser problems at Sunset Beach and Pupukea.

To summarize, plans to provide adequate infrastructure for the present and future resident and visitor population of the North Shore area are within the guidelines and policies set forth in the North Shore Development Plan and the General Plan. Only in the area of transportation is there evidence of gaps between needed improvements and actual and foreseeable growth.

Housing

The most pressing need (as in most of Oahu's DP areas) is for affordable housing for low and moderate income households. Of the 3,899 households in the North Shore area in 1980, 40.5% (1,580) are owner occupied, and 9% of these owners (140) were paying over 30% of their monthly income for housing costs. Of the 59.5% households (2,300) who are renters, 43% (997) were paying 30% or more of their monthly income for rent.

Given the lower than Oahu median incomes in the North Shore area, there is immediate need for more affordable housing units in the area as 1,000 or more households are paying more income in rent than considered affordable, and there are no housing developments which will be built in the immediate future.

H. WAIANAE

AREA DESCRIPTION

The Waianae Development Plan (DP) covers the arid coastal region from the Ewa-Waianae boundary near the Kahe Power Plant to Kaena Point. It is enclosed by the leeward slopes of the Waianae mountain range. Although Waianae is the driest of all Oahu regions, it has good beaches and other resources for ocean recreation. Small farms and scattered residences surround the four principal communities: Nanakuli, Maili, Waianae, and Makaha. These rural communities are linked by Waianae's main arterial, Farrington Highway.

The following data is based on the 1980 U.S. Census and the Bureau of the Census Neighborhood Statistics Program Data Tables for Neighborhoods in Honolulu, Hawaii. The data shows important socio-economic and housing characteristics in the Waianae community.

Population

The rate of population growth in the Waianae District has been consistently higher than that of Oahu, as shown in the table below. The District's population doubled in the 20 years from 1960 to 1980 although the rate of growth has slowed. Waianae's share of the Oahu population increased slightly during this 20 year period.

WAIANAE DISTRICT POPULATION

<u>Year</u>	<u>Waianae</u>	<u>% Increase</u>	<u>% of Oahu</u>	<u>C&C of Honolulu</u>	<u>% Increase</u>
1960	16,452		3.3	500,409	
1970	24,077	46	3.8	630,528	26
1980	31,487	31	4.1	762,534	21

DISTRIBUTION OF 1980 RESIDENT POPULATION IN WAIANAE DISTRICT

	<u>Population</u>	<u>% Distribution</u>	<u>Census Tracts</u>
Makaha	5,928	18.8	98
Waianae	10,524	33.4	97
Maili	9,876	31.4	96.03 + .04
Nanakuli	<u>5,159</u>	<u>16.4</u>	96.01
	31,487	100.0	

About 49% and 51% of the Waianae population are women and men respectively. This was nearly identical to the Oahu distribution; 48.6% and 51.4% of the Oahu population are women and men.

In 1985 the estimated population of Waianae was approximately 33,600 or 4.1% of the islandwide total. The General Plan indicates that the area should accommodate a range of 4.2 to 4.6 percent of Oahu's population in the year 2005.

Median Age

The population of the Waianae area was relatively younger than Oahu. The median age of residents in 1980 was 22.5 years. In comparison, the Oahu median age was about 28.1 years according to the 1980 census.

About 33.9% of the Waianae population was under the age of 15 and 5.1% over the age of 65. In comparison, about 23% of Oahu's population was under 15 years of age and 7.3% over 65 years.

Ethnicity

The Waianae area has a higher proportion of Hawaiians and part Hawaiians and smaller proportions of Caucasian and Japanese. About 40% of the Waianae area population are residents of Hawaiian ancestry, 23% Caucasian, 16% Filipino, and 7% Japanese. This in part reflects the impact of programs of the Department of Hawaiian Home Lands to lease homestead land to native Hawaiians.

Household Size

The Waianae area has a larger household size than Oahu. The estimated number of persons per unit in Waianae was 3.93 in 1980. In comparison, the average household size for Oahu was 3.15. Waianae also has a higher percentage of households with 6 or more persons (21.4%) than Oahu (9.6%) and a smaller percentage of one person households (11.4%) than Oahu (17.2%).

Income and Poverty Status

Household income levels in Waianae have been lower than the Oahu median. The median household income in Waianae was \$15,596 or 26% below the Oahu median of \$21,077.

The poverty threshold for a four person family was \$7,412 in 1979. There were 6,825 persons living below the poverty level in Waianae or 21.9% as compared to 69,435 persons or 9.5% below the poverty level on Oahu.

Of 1,454 families below the poverty level in Waianae, there were 755 families or 51.9% with a female head of the household. Of 13,405 families below the poverty level on Oahu, there were 6,261 families or 46.7% with a female head of the household. Waianae also had a higher proportion of children represented in the poverty population as compared to Oahu. Of the elderly population, a higher proportion in Waianae were below the poverty level.

INCOME AND POVERTY STATUS

	<u>Waianae</u>	<u>Oahu</u>
Median Household Income	\$15,596	\$21,077
Persons Below Poverty Level	6,825	69,435
As % of Area Population	21.9%	9.5%
Female Householder, No Husband Present	1,289	23,468
As % of Families	19.1%	13.3%
Families with Female Head of Household Below Poverty Level	755	6,261
As % of Families Below Poverty Level	51.9%	46.7%
Related Children Under 18 Below Poverty Level	3,529	27,335
As % of Persons Below Poverty Level	51.7%	39.4%
Persons Over 65 Below Poverty Level	376	5,249
As % of Elderly Population	24.3%	7.6%

Education

The population of Waianae has a lower educational level than other communities on Oahu. About 59.3% of persons 25 years and older in Waianae were high school graduates as compared to 75.6% for the island of Oahu. About 6.9% had completed 4 years or more of college as compared to 21.7% for Oahu.

Unemployment

The unemployment rate in Waianae has been higher than Oahu and was 2/3 higher in 1980. The unemployment rate for Waianae was 7.7% as compared to 4.6% for Oahu.

Housing

Waianae had approximately 9,500 year-round housing units which included 1,500 vacant units and 8,000 occupied units.

The vacancy rate in Waianae was 16% or almost double the percentage for Oahu (8.2%). The Waianae vacancy rate is affected, however, by the number of condominium units for visitor use in Makaha. If Makaha is excluded, the vacancy rate for the remainder of Waianae was 5.8%.

Waianae had larger households than Oahu and almost double the percentage of overcrowded households (more than 1 person per room). Waianae renters paid a larger percentage of their income for housing as compared to Oahu. Waianae homeowners paid almost the same percentage of their income for housing as Oahu homeowners did. The median value of owner occupied units in Waianae, however, was about 60% of the Oahu median value.

HOUSING

	<u>Waianae</u>	<u>Oahu</u>
Total Year-round Housing units	9,528	250,866
Vacant Housing Units	1,564	20,652
Occupied Units	7,964	230,214
Vacancy Rate	16%	8.2%
Tenure		
Owner Occupied	51.3%	49.9%
Renter Occupied	48.7%	50.1%
Selected Conditions		
Lacking Some		
or All Plumbing	1.3%	1.5%
1.01 to 1.50 Persons/Rm	17.0%	8.1%
1.51 or More Persons/Rm	13.7%	7.4%
Persons per Household	3.93	3.15
Median Contract Rent	\$264	\$279
As % of Median HH Income	20.3%	15.9%
Median Value Owner Occupied Unit	\$77,000	\$130,400
Median Monthly Mortgage	\$355	\$494
As % of Median HH Income	27.3%	28.1%

MAJOR ISSUES

Socio-Economic

One of the major issues facing the Waianae community is economic condition. Waianae ranks poorly when compared to other Oahu communities on a number of indicators including median household income, number of persons below the poverty level, and unemployment. Contributing factors to the economic problems in Waianae are the relatively younger median age of its residents since a youthful population has fewer job related skills, the lower proportion of residents who have completed high school and college, and a higher proportion of households headed by a female who may be the only wage earner in the household.

Proposed major developments in Waianae and Ewa imply several things for Waianae residents. The relatively younger Waianae population can be an existing and future source of workers for entry level jobs in Makaha Valley and Ewa. For example, onsite employment at the Pacific Basin Conference Resort in Makaha would provide approximately 330 full time equivalent positions, and the developments in Ewa are expected to generate nearly 21,000 jobs. Development of a retirement community in Makaha Valley will result in a rise in the median age of Waianae residents and may also increase median household income levels in Waianae. While the retirement community residents may create a demand for new services, resulting in increased local employment, the target market for the housing units will be the portion of the Oahu population at or approaching retirement. The relatively younger population in Waianae will add to the numbers of people on Oahu in the housing market, especially those seeking affordable housing.

The principal economic activities in Waianae consist of modest resort development in Makaha, neighborhood businesses, diversified agricultural operations, and the Lualualei Military Reservation. Jobs in Waianae accounted for 40% of the civilian labor force. This relatively limited economic base contributed to the high percentage of residents who must commute long distances to work (70%). By comparison, in the Primary Urban Center, approximately 15% of the people were employed outside the Primary Urban Center.

Adequate health service continues to be a concern for Waianae residents. In its 1985 Strategic Planning Report, the Waianae Coast Comprehensive Health Center indicated that the ratio of physicians to Waianae residents was estimated to be 1:3,832 compared to 1:1,239 for the State and that the travel time for the majority of Waianae residents to a primary care provider, such as a family physician, was over 30 minutes (many rely on public transportation). The Waianae communities are the only areas not within 30 minutes of medical facilities serving maternity patients according to the 1986 State Health Services and Facilities Plan.

Medical care will become more accessible with the development of a new hospital facility in Ewa. St. Francis Hospital West is under construction near the intersection of Fort Weaver Road and Farrington Highway and will provide 100 beds with plans to add another 36 beds. The hospital is scheduled for completion in August 1988 and the medical office building in August 1989.

Land Use

The approximately 10,000 acres of land in Waianae designated for Agricultural use in 1986 represent nine percent of the 115,000 acres designated for Agricultural use on Oahu and 25% of the total land area of 38,000 acres in Waianae.

Diversified agriculture in Waianae is a major economic activity and contributes a significant proportion of goods to the Oahu market. According to an assessment of economic development opportunities in 1980 by Peat, Marwick, Mitchell and Company, there are approximately 250 farm units in the Waianae District representing over 50% of the total farm units on Oahu. These farms tend to be relatively small, averaging less than 2 acres. Agricultural production data (1975) indicated that the Waianae District produced:

- . 48% of Oahu's total value for vegetables and melons
- . 40% of Oahu's value for beef cattle
- . 66% of Oahu's value for milk sold
- . 69% of Oahu's value for hogs
- . 98% of Oahu's value for chicken fryers-broilers and 43% for eggs produced
- . 20% of Oahu's ornamental and nursery products

These agricultural lands will come under increasing pressure for urban use when the West Beach Resort and the Secondary Urban Center in Ewa are developed. In Makaha Valley, HONFED is selling 129 lots in its Mauna Olu Estates subdivision and is proposing the development of the 300 room Pacific Basin Conference Resort. Makaha Valley, Inc. is proposing the development of a retirement community which may add approximately 400-500 units to the existing housing supply.

Housing

Between 1980-85 the amount of developable, multi-family and single-family residential land in Waianae decreased by half to approximately 665 acres from about 1,380 acres. This decrease occurred when these lands were redesignated to Agricultural use when the DP's were adopted to conform to the GP Residential Population Distribution for Waianae. During this period, the dwelling unit count as measured by building permits increased

by approximately 450 units. However, only 225 units were actually built. The other 225 units were never completed.

Affordable housing appears to be a problem in Waianae, especially for renters. Approximately 26% of the homeowners and 57% of the renters in Waianae are paying over 30% of their income for housing. Households are paying rents which are comparable to homes in other parts of Oahu with lower market values.

The Waianae community has benefitted from programs providing housing opportunities. The Department of Hawaiian Home Lands has accelerated its program of distributing homestead lots to native Hawaiians. In Waianae as of December 31, 1987, 1,471 residential leases were distributed, an additional 900 units (currently under review) could be available in the future, and 457 applicants are on the Department of Hawaiian Home Lands waiting list. In many cases these residential leases were for unimproved lots. Prior to 1980-81 the Department of Hawaiian Home Lands had constructed about 1,000 housing units; these units and lots were distributed to native Hawaiians. These 1,000 units are included in the inventory of the approximately 1,320 publicly assisted housing units which were provided in Waianae (1,162 low/mod and 158 gap group units) during the period 1980-86. These 1,320 publicly assisted housing units represent 12% of the 10,630 housing units in Waianae in 1986. Approximately 185 publicly assisted housing units are projected for construction between 1987-2005 (11 low/mod income and 174 gap group units).

Public Services

Farrington Highway is the major transportation facility serving the Waianae communities. Farrington Highway is a four-lane highway from Nanakuli to Waianae Town and is two lanes from Waianae Town to Makaha. The Public Facilities Map indicates plans to improve Farrington Highway within the existing right-of-way from Nanakuli to Waianae, within 6 years, and from Waianae Town to Makaha beyond 6 years.

The availability of water has been a major concern in Waianae since it would affect the development of economic activities and new housing, as well as the expansion of diversified agriculture. The present water supply is being provided from the Pearl Harbor aquifer (3.4 mgd) and existing water sources in Waianae (5 mgd).

Water demand has been projected to increase to 10.3 mgd in the year 2000. In the interim, the Board of Water Supply (BWS) has lifted, on a temporary basis, the water moratorium for Waianae and is providing water on a first come, first served basis. BWS plans include an additional 3-5 mgd from wells in upper Makaha Valley by 1991 and the possible development of an additional 2 mgd in Waianae Valley.

The Waianae DP area is serviced by the Waianae Sewage Treatment Plant (STP) which has a capacity of 1.74 mgd with daily flows averaging 1.1 mgd. The STP is currently undergoing an expansion to increase the capacity to 5.2 mgd. Plans to increase public sewage services include sewage improvement districts for Nanakuli and Makaha which would replace existing cesspools.

Recommendation

It is recommended that development in Waianae be periodically assessed to determine whether Waianae should be redesignated from rural to urban-fringe in the General Plan along with a corresponding percentage increase of the residential population distribution. Makaha Valley is already an area with primarily urban land uses including Resort and Medium Density Apartment. It is anticipated that gradual development of the Secondary Urban Center, the West Beach Resort, and the Campbell Industrial area may increase development pressure on nearby communities in Waianae and Central Oahu. The GP objectives and policies regarding the viability of agriculture should also consider the needs of diversified agriculture located on lands in Waianae and its contribution to Oahu's economy.

MAJOR DEVELOPMENTS IN WAIANAE

PROJECT: Makaha Valley Inc.'s Retirement Community
USE: Residential
ACREAGE: 195 \pm Acres
NO. AND TYPE OF UNITS: 600 units (10,000 s.f. lots)
START AND COMPLETION: Rezoning being processed from Country to R-10. No time schedule is available.

PROJECT: HONFED's Mauna Olu Estates Subdivision
USE: Country
ACREAGE: 186 Acres
NO. AND TYPE OF UNITS: 94 units
START AND COMPLETION: Lots currently being sold to individual buyers

PROJECT: HONFED's Pacific Basin Conference Resort
USE: DP amendment from Residential to Resort use being adopted in the 1987 Annual Review
ACREAGE: 23.5 Acres
NO. AND TYPE OF UNITS: 300 visitor units
START AND COMPLETION: January 1989 start construction; July 1990 projected completion date

SECTION V.

PREVIEW OF ISLANDWIDE MAJOR ISSUES

MAJOR ISSUES PREVIEW

Introduction

Projected population growth and demographic change on Oahu will generate the following issues, according to the summary assessments of the eight Development Plan areas:

- the lack of peak hour carrying capacity in the island's transportation system which is perceived as the major factor in the traffic congestion problem
- water supply and distribution
- need for affordable housing
- conflict between urbanization pressures and agricultural land uses; impact of development on rural lifestyle
- preservation of important environmental and scenic resources, including agricultural lands
- diversification of the island economy and growth of the job base

The General Plan, most recently updated in 1987, addresses these major concerns under the plan's eleven subject areas. The objectives and policies in the subject areas reflect the comprehensive planning process of the City and the County.

The Development Plans implement and accomplish the objectives and policies of the General Plan. They provide for land use and public facilities planning and also indicate the sequence in which development will occur.

This Development Plan Status Review (DPSR) for 1988 will present a general and summary discussion on the major issues of growth, housing, economic development, social and environmental impact, and infrastructure. These interrelated issues will be discussed in relationship to the Development Plans and the current implementation status of the plans.

Planning for Oahu's Population Growth

Continued population growth for Oahu is anticipated in the next twenty-five years, although at a slower rate than during the previous decade. The birth rate has been falling steadily, and the number of immigrants has declined from the higher level of the 1970s. Preliminary new forecasts by the State Department of Business and Economic Development indicate that a population of 975,100 is now projected for Oahu in the year 2005. This estimate represents an increase of 20,600 persons from earlier forecasts.

The Department of General Planning (DGP) has calculated that based on Development Plan land use designations in effect as of December 31, 1987, the capacity exists to accommodate a population of under 976,000 persons. About 83,000 potential housing units are projected to be built on developable acreage either already designated islandwide for single- and multi-family residential use on the Development Plans or approved by the State Land Use Commission. Not all projects with State Land Use Commission approval are on the adopted Development Plans; some projects have applications pending in the 1988 amendment process. Acreage already designated on the Development Plans results in a housing capacity of approximately 70,300 units. These additional housing units are expected to accommodate the 164,905 people who will be added to the existing 1988 Oahu population of 811,095 to result in a population capacity of 976,000 persons.

Both the General and Development Plans give clear direction of the nature and sequence of development on Oahu. The Primary Urban Center (PUC) is to be fully developed, and a secondary urban center is to be developed in the West Beach-Makakilo area in Ewa in order to relieve the pressures for development in Central Oahu and other urban fringe areas. The Development Plan states that expenditures for new public facilities and utilities that provide for new growth should first be oriented toward the PUC and Ewa.

The Development Plans are the means for directing and managing the future growth of Oahu. Down designation of residential land to preservation or agricultural uses, as the Development Plans were adopted, have already decreased the amount of designated residential lands in the East Honolulu, Koolaupoko, Koolauloa, North Shore, and Waianae areas. Comparison of the General Plan Maps and Detailed Land Use Maps (DLUMs) in use at the end of 1980 and the Development Plan Land Use Maps at the end of 1986 indicates that acreage designated for all forms of residential use decreased by about 6,600 acres.

Developable acreage and existing Development Plan designations will result in a potential supply of an additional 22,000 new housing units in the Primary Urban Center between now and the year 2005. Including the State's Kapolei Village project, another 30,000 units are projected for Ewa, but the total housing units generated in the primary and secondary urban centers will still be insufficient to meet demand for new housing. However, market acceptability of Central Oahu as a desirable residential area has resulted in continued development proposals in that area.

A General Plan amendment is currently pending to include Central Oahu as a growth area. The amended General Plan population objective, if adopted, would encourage development within the secondary urban center and the Ewa and Central Oahu urban-fringe areas to relieve developmental pressures in the remaining urban-fringe and rural areas and to meet housing needs not readily provided in the Primary Urban Center.

The State Land Use Commission has approved developments numbering over 11,000 dwelling units for Central Oahu which are not presently included in the Development Plan. As the Central Oahu Development Plan population capacity already exceeds the General Plan population guidelines based on current projections for the year 2005, policy decisions will be needed regarding the desirability of allowing further development in Central Oahu. Some considerations are that despite strong market forces for development in that area, management of growth in Central Oahu could still prevent an undesirable spreading of development. Potential density in other urban-fringe and rural areas may be reduced by transferring additional density to the Ewa and Central Oahu areas. This would help maintain the character of development and environmental qualities desired for those other areas.

Alternative policy would be to focus all future development in the secondary urban center. Over 22,000 potential housing units have been proposed for the Central Oahu area, with approximately 7,000 housing units already designated on the Central Oahu Development Plan. Some of these 7,000 units are currently under construction. Redirecting developer interest to Ewa and shifting an additional large increment of potential housing units and population there, on top of the more than 30,000 units approved or in the Development Plan amendment pipeline for Ewa, could result in the Ewa area exceeding its population capacity under existing General Plan guidelines. The present population of Ewa is estimated to be approximately 36,700 while the current Development Plan capacity of the area is 115,100. When all currently proposed projects are built out, the resulting population increase in Ewa would amount to over 200%.

Regardless of whether full growth occurs in Central Oahu or Ewa, competition would be present for water and prime agricultural land, two of the scarcest resources on the island. One issue is the preservation of sufficient agricultural land in Central Oahu and Ewa to maintain the viability of the sugar and pineapple industries and the other is allocation of scarce water resources among competing uses. At this time the island has an adequate ground water supply to beyond the year 2010 if acreage used for sugarcane cultivation does decrease by 3,000 to 4,000 acres; then as much as 30 mgd of water could be made available for other uses. Alternative technologies to increase and better utilize the water supply are being tested in demonstration projects.

Housing

Development of affordable housing is a crucial General Plan objective. In public opinion surveys, affordable housing continues to be rated as one of the most important issues. The State of Hawaii has one of the lowest rates of homeowner occupancy in the nation. According to a recent State study, Hawaii had the most expensive housing in the country, the

second highest rate of renters, and the highest number of people per room in the United States. Even by the early 1980s, Hawaii had average home prices more than double the national figure and average family income only slightly higher than the U.S. average. While there has been agreement on the need for more affordable housing, there also has been resistance to the idea of additional traffic generated by new developments which would add to the congestion of currently heavily used transportation arteries.

With currently low vacancy rates and high rents on Oahu, one would expect a large latent demand for new housing units, both for sale and for rent. Despite lowered interest rates which would have decreased the costs of take-out financing, changes in the tax laws and the expected lower rate of investment return on rental housing have been disincentives for developers to build large scale new rental projects. Traffic congestion on the highways leading into the Primary Urban Center and the proclivity of certain categories of renters, such as singles and elderly persons, in living near educational, social, cultural, commercial, and medical amenities make the Primary Urban Center an attractive location for new rental housing, but the lack of developable land there and high land costs are major deterrents for developers. Development of rental housing by the private market is largely at a standstill. The larger rental projects built in recent years have been primarily publicly assisted projects.

According to the 1986 Construction in Hawaii report, 42% of the housing units on Oahu in 1985 were occupied by owners; this rate of owner occupancy was based on the tax exemption claims for homeowners. About a total of 2,100 new housing units developed by the private sector were sold in 1986; this was the highest level since 1979. In recent years the public and private sectors together have built about 3,000 housing units a year. Preliminary calculations indicate that current proposed and approved projects in Ewa and Central Oahu will result in about 2,300 new dwelling units each year to the year 2010.

The problem on Oahu is not the lack of desire on the part of residents to buy their own homes, but the lack of financial ability. Very frequently the income gap remains too great even for those with above median incomes. Currently, the majority of Oahu's households who are not yet homeowners are priced out of the housing market. The lack of affordable housing on Oahu has created a large backlog of demand. Also, only about half the number of units needed each year to keep up with the increase in numbers of household and to replace deteriorating units have been constructed.

1987 was the best year for all home sales in Hawaii since the boom years of the late 1970s. According to a recent issue of Hawaii Real Estate Indicators, the typical Oahu midpriced, existing single family house was in the \$200,000 to \$225,000 range in early 1988. Based on the Bank of Hawaii's annual survey, the average sales price of a new single family housing unit developed in 1987 was \$163,874; this is nearly \$8,000 more than the average price for a new house in 1986. The average price of a unit in a new multi-family development of four stories or less was \$105,680 in 1987; this is about \$3,000 less than the average price of a new unit in 1986. Still, newly developed single-family housing units, while smaller in size, have been cheaper than existing housing.

The 1987 average new single-family house sold for under \$164,000 indicating some private market response to the need for affordably priced housing, affordable at least to those at the upper limit of the "gap group", in this case, 140% of median income. Some private developers in 1987 were able to build entire new developments (e.g., Village Park in Central Oahu and Soda Creek in Ewa) where the price of all new units was well under \$164,000. The problem is that there were not enough units being offered at that price level to meet demand. The private market built few new single-family units that were priced under \$139,800, which is defined as the upper affordable sales price for families with incomes under 120% of median (currently \$43,800 a year for a family of four).

Generally Oahu residents prefer to buy detached, single-family housing. Developers have experienced lower market acceptance, manifested through longer selling time, for even low storied multi-family housing. Since the adoption of the Development Plans, applications for amendments which have been adopted have resulted in changes of about 143 acres to Medium Density Apartment (MDA) and only 5 acres to High Density Apartment (HDA). About 5 acres of the MDA redesignations reflect existing use; most of the remaining acreage are part of the Hawaii Kai Marina and Ko Olina Expansion projects which are not underway. The same Date-Laaui area 5 acre parcel which first changed to MDA, then HDA, was down designated in 1985 to Low Density Apartment.

Development and construction of high-rise apartment structures is more costly and generally would not result in affordable sales prices. Two current projects in Kakaako have sales prices for a one bedroom unit at well above \$165,000 although one developer is committed to building affordable units later. Also, permissible height limits which would accommodate high-rise development are restricted to the Primary Urban Center under the Development Plan Special Provisions.

The rate of increase in incomes has not kept pace with the rise in all housing prices, new condominiums in 1987 being the exception. Median family incomes, as used in the rental subsidy and affordable housing programs, increased by about 4%

between 1986 and 1987; the average price for a new single-family unit increased by nearly 5%, single-family resale by 30% and a resale condominium by 16%. While the rate of increase in median income was slightly higher between 1985 and 1986, the average price of a new single-family unit increased nearly 8% and multi-family units 16%; resales increased by 13% and 8%, respectively. Furthermore, average wages have been decreasing as the number of lower paying jobs in retailing and services employment are increasing much faster than higher paying jobs both statewide and on Oahu. For example, the average annual wage was \$10,856 in retailing, \$14,494 in the hotel business, and \$29,810 in construction.

Hawaii has had higher family incomes than the national average because of the many multi-wage earner families. Private sector workers in Hawaii, however, earn an average annual wage (\$16,070) which is slightly less than the national average (\$18,976). The growth in tourism and service related areas have resulted in more unskilled jobs at the low end of the wage scale. A report from the State Occupational Information Coordinating Committee indicates that of the ten occupations which will be in most demand in the next decade, six are jobs in the food and beverage business. Jobs in the retail and wholesale trade and services sectors accounted for slightly more than half of all private employment in Hawaii in 1970; these sectors now account for two-thirds of private employment. Not all service sector jobs are at the low end of the wage scale; lawyers, doctors and nurses are also service occupations and are included in the list of the top twenty jobs most in demand through 1995. The large numbers of workers needed in the future, however, will be in the other lower paying service occupations.

The gap between income and housing prices is important for the issue of affordability. The decreased interest rates of the past two years have not been as critical as price and income for areas such as Oahu where high housing prices prevail. The percentage of owner occupants on Oahu has only increased slightly in the past 20 years, because of the widening gap between housing prices and incomes. According to an analysis done by the Bank of Hawaii, in 1986 (when mortgage interest rates had dropped from previous higher levels), there was still a \$1,000 gap between the monthly income required to purchase the average new priced home of about \$155,000 and the average median income. The problem of affordability remains for those families earning incomes at the median level. There is little prospect that wage levels or median family incomes will rise substantially in the near future, so solutions lie in public policies that would encourage more private development of affordable housing or public production of affordable housing.

Some local economists have contended that it is not construction or site development costs which cause the average price of a new house in Hawaii to be nearly doubled the average price of a new house nationwide, but land costs. A 1987 study by University of Hawaii professors Rose and LaCroix links Oahu's high housing costs to the high land prices here. They found that the 1980 price of an improved home site in Honolulu was \$8.00 a square foot, almost five times the national average. Development costs for unimproved home sites would also increase the cost of new housing as the site development costs are passed on to the buyer.

Both on- and off-site development costs would be high on any unimproved land, but lower total construction costs would be associated with level agricultural lands, especially those lying close to major transportation and other public facilities. New housing being built currently in Makakilo is priced higher than some new projects being proposed or just built in the level lands of Ewa and Central Oahu because site development costs are higher on ridge lands. Consequently, private development interest has been sustained in Central Oahu, because the land has a level topography, lower acquisition cost and stable soils, has been of the type to be most easily and profitably developed for urban uses. Market acceptance of housing in this area also spurs private development interest.

Higher costs associated with private infrastructure development in future Central Oahu and Ewa housing projects may result in higher housing prices unless new production technologies or designs are utilized to contain costs, or the developer takes a lower profit per unit but builds at greater density and volume. Development Plan amendments approved in the past for the Waikale project (Central Oahu: 2,000 units), Ko Olina Expansion, Kapolei Town Center, Ewa Marina, and Ewa Plantation/Gentry projects (Ewa: total approximately 14,700 units), and the Marina housing projects in East Honolulu are in keeping with this latter approach of building at higher density or volume.

Development of lower priced housing by the public sector is one means of increasing the supply of affordably priced housing. The City and County's West Loch housing project was the subject of Development Plan land use amendments adopted in 1987. While the site acquisition costs were reasonable, the high site improvement costs will be a major component of each housing unit cost. Preliminary figures indicate that on- and off-site development costs could be as much as 40% of total construction cost of a unit. The West Loch site was selected for its location adjacent to an urbanized area providing ready access to existing infrastructure in order to minimize development costs.

Sufficient acreage has been designated on the Development Plans, or as a result of adopted amendments, to accommodate required housing units for the projected population of Oahu in the year 2005. As absorption rates will depend upon prices, interest rates, and the purchasing power of Oahu residents, it is unlikely that all units buildable on the Development Plans will be constructed by the year 2005. Complete build-out of projects is not expected until after 2005.

Economic Development

If the number of units under construction are relatively constant every year, then a steady base of employment in the construction industry will be maintained. According to the State's Series M-F projections, construction jobs as a proportion of the total jobs on Oahu has declined since 1970; however, the proportion of jobs in the construction sector is projected to increase slightly between now and the year 2005.

The State forecasts a continuing decline in the proportion of jobs in the manufacturing sector, which lost employment share since 1970. No single large scale new manufacturing enterprise is expected for Oahu. Still, an increase in the numbers of manufacturing jobs is expected as a result of development of industrial sites on Oahu. The development of the Barbers Point Deep Draft Harbor is expected to result in 5,100 jobs of various types, the expansion of Campbell Industrial Park would create another 4,000 jobs, and the development of Mililani Technology Park about 6,000 jobs. Along with residential activities, the commercial and industrial development in Kakaako is expected to result in approximately 25,700 jobs. Only a portion of these jobs would be strictly "manufacturing" ones; others would be in the transportation, utilities, construction, trade, and services categories.

Additional employment opportunities are expected with the development of the secondary urban center. Revised development plans for the Kapolei Town Center include construction of 2,300 housing units to support the commercial activities. When fully developed, Kapolei Town Center is expected to provide 12,500 new jobs, an anticipated 50% of the Ewa employment base.

Other commercial development in Ewa and Central Oahu is also anticipated. Approximately 2000 new jobs are expected to be created as a result of the Waikale development and 800 jobs by commercial development in the Ewa Marina project.

Land designated as industrial use decreased from about 6,700 acres on the 1980 DLUMs to 3,600 acres on the 1986 Development Plan Land Use Maps. A report, Industrial Land Needs on Oahu, prepared by the DGP in 1983 concluded that there was at that time an adequate supply of industrial land to meet demand other than that generated by firms desiring to serve certain regional or community markets in Hawaii Kai, the North Shore, and Koolaupoko. Since the adoption of the Development Plans, an

additional 400 acres of industrial land have been added by amendments; the Mililani Technology Park accounted for 128 acres. The Mililani Industrial Park, however, is being marketed for research and development in high technology industries. Nearly an equal amount of land designated industrial changed to other uses.

The number of acres designated for commercial use has increased between 1980 and 1986 from 1,750 to almost 2,950 acres. Some changes occurred with the adoption of the Development Plans. Amendments approved since the plans' adoption have resulted in a net increase of about 800 acres in commercial designation. Some of the additional commercial lands are associated with resort usage.

Resort development at projects which have approved Development Plan designations are expected to create another 8,500 new jobs (about 5,000 at the Ko Olina resort in Ewa and 3,500 at the Kuilima resort in Koolauloa. Oahu is expected to have strong, continued viability as a full scale resort center, provided that future hotel rates do not increase dramatically and lead to a perception that Hawaii is a high cost resort area. There was a slowdown in growth in numbers of Westbound visitors in 1987 and early 1988, offset by 20% or more increases in the number of Eastbound visitors. Development of the Ko Olina and Kuilima resorts are expected to impact not only Ewa and Koolauloa but Waianae and North Shore as well. The Ko Olina resort is expected to provide employment for Waianae Coast residents. Full development of the Kuilima resort project will result not only in new jobs, but possibly pressure for additional growth through housing demand by workers.

The shift to service sector employment in Hawaii reflects the national trend of a shift to service jobs. Large number of new jobs are expected on Oahu because of the growth of tourism, but service jobs pay less than those in construction or manufacturing. Annual average wages are probably higher, however, than that shown by the statistics due to underreporting of actual tip income, especially by those employed in food and drink service jobs. New tip income reporting requirements instituted by the IRS in recent years should result in higher numbers in future statistical reports.

In addition to generating retail and other non-hotel service jobs, tourism is also responsible for the current "mini boom" in the construction industry. This boom is expected to last for the next 3 years, with remodelling and renovation of both resort facilities and residential projects, including those purchased for use by Japanese buyers, providing the fastest growing segment of the industry.

Development of the secondary urban center in Ewa, along with full development of the lands at the Campbell Industrial Park, may facilitate better diversification and more higher paying jobs in the Oahu economy. Higher wages are needed to enable

future households to buy the new housing which is on the drawing boards for development. Creation of jobs away from the Primary Urban Center will also aid in managing traffic congestion on Oahu's major roadways.

Social and Environmental Impact

Numerous social impacts have and will result from the adoption and full implementation of the Development Plans. Some major ones will be discussed.

Through the Development Plans, a balance has been sought in maintaining the country atmosphere and lifestyle of the rural areas but also providing economic revitalization or growth and jobs in areas such as the Windward Coast as sugar was phased out as the primary industry. The Kuilima resort, adopted on the Koolauloa Development Plan in 1985, would result in employment opportunities on the Windward Coast. At the same time slow housing development, low growth, and continuation of agricultural activities are promoted by the Development Plans.

Social impacts can be identified as a result of the increase in jobs forecasted. As noted previously, annual wages for service jobs tend to be lower than those in construction and some manufacturing jobs. The unemployment rate for Oahu and the State has been decreasing during the past 5 years. The State jobless figure has dropped from 6.7% in 1982 to 4.9% in 1986 to just over 4% in 1987. As the State and Oahu approach full employment, wages in the services sector will rise and opportunities also will be available for those residents, such as the severely disabled, who previously had difficulty obtaining employment. With the growth in numbers of jobs in tourism related industries, which operate on a 24-hour basis, the numbers of potential part-time jobs will also increase. This means increased first time employment for teenagers and part-time work for retired senior citizens who may need supplemental income as the cost of goods and services rise in the future.

The increase in projected job count could also result in an increase in the numbers of people holding more than one job. This enlargement in family income may enable additional numbers of households to purchase the housing units currently approved or proposed for development on Oahu, if low interest rates continue to be available.

Since Hawaii currently has one of the highest percentage of women in the work force, the increased numbers of households whose members hold multiple jobs, combined with possibly more teenagers and senior citizens in the work force, may exacerbate the need for child care facilities. Family members currently provide a significant portion of child care. City proposals to build child care facilities in conjunction with park and ride facilities and City sponsored housing projects will meet some of the need.

Disruption or collapse in the tourist industry would be devastating to Oahu's economy if economic diversification is not present. The Development Plans are providing the land uses for diversification. Yet the growth of tourism, while providing more jobs and development of additional recreational areas, could also increase the opportunity for positive interaction between residents and visitors, as additional numbers of residents are offered employment opportunities in the industry.

The adoption of the Development Plans also provided a role and opportunity for increased citizen input in the planning process, as neighborhood boards, community associations, and other interested parties review proposals for development projects and public facilities. The planning process is ensuring that new development in existing communities generally is being limited to that which is compatible with or enhances the desired physical and social character and lifestyle. As provided in the Development Plan Common Provisions, changes affecting the present physical and social nature of these areas shall be made only when community needs or general public interests can be demonstrated.

Both positive and negative environmental impacts have and will result from the Development Plans. When originally adopted the plans removed development capacity from the rural and urban fringe areas; this kept large tracts of land in agricultural and preservation designations and maintained their value as a scenic resource. The Development Plans also control the amount and timing of the release of these lands for development and would disperse the environmental impacts when development does occur. While development on recently cultivated agricultural land has resulted in loss of these lands for agriculture, beneficial environmental changes has also resulted. Additional water pollution from pesticides and air pollution from cane burning has been prevented. These benefits are especially crucial when agricultural land adjacent to existing housing is developed. The Development Plans and public input process may have also facilitated an awareness of important public views, open space, recreational and cultural resources and efforts to preserve those resources not protected at present.

Development may also result in rehabilitation of an area and an improvement in overall scenic attractiveness of some areas, as new infrastructure replaces substandard or nonexistent physical facilities. Groundwater quality can be improved with the construction of sewer facilities and additional pollutants prevented from entering shoreline waters. An associated social benefit from these facilities would be better public health. Therefore, while one intent of the Development Plans is to direct growth, development would not necessarily result in negative impacts.

Some negative impacts do occur as a consequence of implementing the Development Plans. Major effects could be the lowering of streamflow levels through increased demand for residential water usage and the infiltration of sea water into the basal lens of fresh water to limit the amount which could be withdrawn, if development occurs at a faster pace than directed by the General Plan and Development Plans. Also, a decrease in air quality could result from pollution created by automobiles in highly congested traffic. There most likely will be a short-term increase in air pollution resulting from increased traffic congestion related to developments in Ewa and Central Oahu, but in the long run there would be less pollution as new employment centers are built and the commuting pattern shifted. Air quality would also improve as a result of the construction of a mass transit system and acceptance by Oahu residents of alternative transportation modes. Sites for initial rapid transit stations, park and ride facilities and a ferry terminal are part of the Development Plan Public Facilities Map.

Infrastructure

The Development Plans are providing for job and housing development in Ewa. Growth and new development in either Ewa or Central Oahu as well as the Primary Urban Center will require extensive infrastructure additions or improvements. Construction of new infrastructure is needed in the Ewa area to realize the development of the secondary urban center, and expansion of capacity or installation of new facilities is needed to redevelop underutilized areas of the Primary Urban Center.

In accordance with the provisions of the Development Plans, the largest number of proposed public facilities are in the Primary Urban Center and Ewa. Of the over 900 facilities on the Development Plan Public Facilities Map, 37% of the projects are located in the Primary Urban Center. Another 31% of the projects are located in Ewa and Central Oahu together; thus nearly 70% of all proposed new public facilities will be located in these three areas. Of the 152 projects in Ewa, nearly 75% are privately funded; just over 40% of the 128 projects currently on the Public Facilities Map for Central Oahu are privately funded.

Of the 913 facilities currently on the Development Plan Public Facilities Map, more than 400 of the 449 publicly financed projects are designated for implementation within 6 years. About 360 of these are City and County projects; approximately 50 of the facilities were completed as of June 30, 1988.

About 100 of the 360 facilities designated "within 6 years" were included in the proposed Capital Improvement Budget covering fiscal years 1989-1994. The separate 6-year Board of Water Supply (BWS) budget, currently under review, proposes the funding of another 41 water facilities projects designated "within 6 years" at a cost of approximately \$157 million. Consequently about 40% of the "within 6 years" projects were identified for funding in the most recent budgetary process.

However, three BWS projects and 27 other City and County projects designated for "future years" were also included in the two respective 6-year Capital Improvement Budgets. Proposed budget for these 180 facilities in the next 6 years is over \$1.3 billion.

Of these 180 facilities, 14 BWS projects and 69 other City and County projects received approved funding allocations in the FY 1988-1989 budgets. Few of these projects are single-year projects; most are proposed for multi-year funding. Also, 11 of the 69 City and County projects receiving appropriated funding are facilities designated for implementation in "future years"; funds allocated for FY 1988-89 are for planning, engineering, and/or land acquisition costs. The 69 projects, with appropriated funding of approximately \$152 million, represented about 58% of the total FY 1988-89 Capital Budget appropriations of just over \$260 million.

A gap appears to exist between City and County resources and the cost of additional public facilities needed. Economic activity on Oahu produces nearly 80% of the State's gross business receipts and generates about 84% of the State's tax collections. State collections in the general excise and use category amounted to \$684 million for the fiscal year ending June 30, 1985 and \$747 million for 1986. Of these dollars, the City and County received \$7.7 million for FY 1985-86 and \$13 million for FY 1986-87. This amounted to 1% and 2% respectively of the City's budget. Continued economic development has been linked to infrastructure capacity; thus increased investment of State funds may be required to effect additional economic development.

A more intensive analysis of existing infrastructure capability and additional requirements to accommodate the growth or development projected in each Development Plan area will form part of the detailed analysis of public facility needs, sequencing, and timing in next year's Development Plan Status Review. For each Development Plan area, this review will focus upon the current infrastructure capacity of the area, what improvements or additions are needed to bring that area's public facility system up to standards, if substandard, and what would be needed to accommodate growth. The review would hopefully provide a summary of the facilities currently available and the facilities which are lacking based upon joint analysis by area planners assessing proposed development and

facilities planner for the State and City and County assessing increased service needs and planned capacity. This assessment will then be evaluated against the proposed projects on the map and the projected timetable for construction.

The resulting assessment may provide policy makers with better tools in directing growth. The service and facilities gap may also be used to determine the public facilities that a private developer may need to provide in order to receive necessary land use approvals for the project, separating out the existing deficiencies in the system and the additions needed which are directly related to the growth resulting from a proposed project.

Major current infrastructure deficiencies on Oahu relate primarily to sewer capacity and the carrying capacity of the major transportation arteries. The 1985 study, Residential Implications of the Development Plans, prepared by DGP focussed on sewer facilities as a constraint to development. The capacity of the Sewage Treatment Plants (STPs) was used as the basis for limiting the actual housing potential of the developable lands. Should expansion of STPs proceed as planned, the sewer deficiencies, which currently exist in some areas, should be resolved by the year 2005 if developers of committed housing projects construct facilities as agreed. Water availability and road capacity would then remain the major constraints.

Construction of a rapid transit system has been proposed and planning and engineering funds have been allocated in the FY 1988-89 budget. This transit system would have significant and long-term effects on land use and development, influencing the location, concentration and timing of growth in the areas served. Evaluation of the impact of a transit system on existing land uses and on stable communities in the PUC, in stimulating economic development, and in generating development pressures is currently in process. Data contained in the studies, expected to be completed in 1989, will be used to further assess the status of the Development Plans.

SECTION VI.

PROPOSALS

PROPOSED STUDIES

This list identifies significant issues and areas for improving implementation of the General Plan and Development Plan. They constitute an agenda of special studies by the Department of General Planning (DGP). Most studies have not been scoped or approved as yet. These matters are handled on a time available basis, since much of our workload is "on demand" and subject to statutory deadlines.

Review and revise DP amendment report format (DGP)

Reformat PF Map and revise process (DGP)

Review DP text for needed updating and changes (DGP)

Review LUO for areas of incompatibility with DP text (DGP/DLU)

Compile The City and County of Honolulu Data Book

Review "fit" of FAR vs Density/Height guidelines (DGP/DLU)

Planning studies at community/neighborhood level

Commercial lands requirements (DGP)

Long-term trends studies:

- agricultural land conversion
- watertables
- water pollution
- erosion

Subarea social/economic/environmental indicator studies

Implementation studies: DP implementing GP (DGP)
Zoning and Budget implementing DP (DGP)

Infrastructure requirements and future development

Determination of land slide areas

CURRENT STUDIES

Studies in progress at this time include the following:

Noise Regulations (DGP)

Alternative Forms of Visitor Accommodations (DGP/DLU)

Community Benefit Assessment (DGP)

Rapid Transit Land Use (DGP/Task Force)

Waikiki Policy Analysis (DGP)

Waterfront Development (DGP/Task Force)

RECOMMENDATIONS FOR COUNCIL ACTION

The Chief Planning Officer may forward proposals and amendments, with supporting justification, to Council in future months for action to implement the following recommended changes:

1. Eliminate the Annual Amendment Review process and make all amendments to the Development Plan by Independent Consideration amendment.
2. Adopt a time-phased development planning process.
3. Add enabling statements in the Development Plan to allow small scale, alternative visitor accommodations such as larger bed and breakfast operations in nonsecondary resort areas.

